JPRS-UEN-84-007

5 March 1984

USSR Report

ENERGY

FBIS FOREIGN BROADCAST INFORMATION SERVICE

NOTE

JPRS publications contain information primarily from foreign newspapers, periodicals and books, but also from news agency transmissions and broadcasts. Materials from foreign-language sources are translated; those from English-language sources are transcribed or reprinted, with the original phrasing and other characteristics retained.

Headlines, editorial reports, and material enclosed in brackets [] are supplied by JPRS. Processing indicators such as [Text] or [Excerpt] in the first line of each item, or following the last line of a brief, indicate how the original information was processed. Where no processing indicator is given, the information was summarized or extracted.

Unfamiliar names rendered phonetically or transliterated are enclosed in parentheses. Words or names preceded by a question mark and enclosed in parentheses were not clear in the original but have been supplied as appropriate in context. Other unattributed parenthetical notes within the body of an item originate with the source. Times within items are as given by source.

The contents of this publication in no way represent the policies, views or attitudes of the U.S. Government.

PROCUREMENT OF PUBLICATIONS

JPRS publications may be ordered from the National Technical Information Service (NTIS), Springfield, Virginia 22161. In ordering, it is recommended that the JPRS number, title, date and author, if applicable, of publication be cited.

Current JPRS publications are announced in Government Reports Announcements issued semimonthly by the NTIS, and are listed in the Monthly Catalog of U.S. Government Publications issued by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

Correspondence pertaining to matters other than procurement may be addressed to Joint Publications Research Service, 1000 North Glebe Road, Arlington, Virginia 22201.

JPRS-UEN-84-007

5 March 1984

USSR REPORT

ENERGY

CONTENTS

ELECTRIC POWER

NON-NUCLEAR POWER

PIPELINES

PIPELINE CONSTRUCTION

COAL

EKIBASTUZ SUCCESSES, SHORTCOMINGS OUTLINED

Moscow PRAVDA in Russian 14 Oct 83 p 1

[Article by Kh. Dosmagambetov, rotary bucket excavator operator, Ekibastuzugol' Production Association, deputy, Kazakh SSR Supreme Soviet: "Without Clear Orientors"]

> [Text] The Bogatyr' Strip Mine at Ekibastuz produces 90 tons per minute. The development scales are truely Herculean for the entire fuel and energy complex here. One-fourth of the nation's strip mine coal production is shipped from here to electric power plants in the Urals, Siberia and Kazakhstan. The mine supplies two dozen plants such as the Ekibastuz GRES-1, and, after all, this plant is not small -- it already has six 500,000 kW units in operation.

It would seem that there would be glory and honor to miners who have undertaken such work. What a pity it is to admit that they are not especially honored. The fact is that not a single strip mine in the Ekibastuzugol' Production Association has fulfilled the state plan. If this had happened only once, it could be considered an accident and, once the shortcomings were eliminated, forward progress could again be made. However, the "knot" at Ekibastuz is tied much tighter. There has been lagging for more than 10 years.

Since 1973 Ekibastuz has not once produced the initially planned amount of coal. Our shortfalls ranged from 500,000 tons a year to almost 5 million. True, in the final days of the year the situation would, as a rule, magically change. A telegram would arrive from the USSR Ministry of the Coal Industry and as a result instead of a huge minus there would ba a small, but saving, plus. Just over the past 4 years the ministry has changed the plans almost 50 times, in 19 of those it eliminated the targets which it had set.

Certainly, many will not believe this. How can this be? Ekibastuz, about which so much has been said and written, among the lagging? Here where there are records, unique scales and rates?

We do have all that. I will give only a few figures. During the years of "lagging" we increased coal extraction 2 fold and have come right up to the 70 million ton mark. Incidentally, no association in the nation mines so much.

Last year S. Zubko's rotary bucket excavator crew at the Bogatyr' attained a notable success. In 12 months it extracted 873,000 tons of coal, breaking its previous all-union record for a machine of this class. Crews of more powerful machines, led by A.Shishlov and R. Fetser, annually send 7-8 million tons each year to customers. Thanks to such highly productive work on the part of our brigades the prime cost of coal extracted at Ekibastuz is three fold less than the average for the nation's strip mines, while labor productivity here is more than two fold higher.

The Tsentral'nyy Strip Mine, where I work, is smaller than the Bogatyr', the machinery and extraction volumes are more modest. Nevertheless the brigades of N. Vovkodav and G. Mozer have repeatedly exceeded the potentials of their units and achieved the best results in the sector.

Just what is the reason for the chronic lagging at Ekibastuz? For me and my fellow operators, for example, the day begins with questions about empty railroad cars. Our unit is a "thousander". it is now the smallest machine in the mines. It should load around 100 cars daily. Naturally, at the Bogatyr' the norms are somewhat higher. Time on the shift is so tight that the smallest breakdown means an irreplaceable loss in production. This year at our brigade alone, about twelve work shifts were lost in waiting for empties. True, we all the same fulfill the plan. The number of planned stops was reduced and loading was accelerated. However, losses do remain losses. Since the first of the year the association has been shorted a total of 18,000 cars. This number could haul almost 1.5 million tons of fuel, more than the entire present debt at Ekibastuz.

It is a pity to see a many ton giant sitting idle when it could be putting out a broad river of coal -- up to 5,000 tons per hour. It is even more of a pity for comrades, highly skilled specialists, to idly waste valuable working minutes.

However, a real paradox results. As a deputy at the republic supreme soviet I often visit Alma-Ata and Moscow and meet power engineering workers. It would seem that our lagging would put them in a difficult situation, after all two dozen power plants are operating exclusively on Ekibastuz coal. Not once in the 11th Five-Year Plan have Ekibastuz customers experienced a fuel shortage. Moreover, we even receive "refusal" telegrams from power producers. Unplanned repair stops and efforts to economize on resources have an effect, of course. Whatever the reason, this year electric power plants consumed almost 1 million tons less coal than they ordered.

It is important to recall here that in contrast to other coal enterprises, our association lacks storage space. The fuel is loaded directly into railroad cars and sent to power plants. If they refuse it there is no place to put the fuel. Again, this means idle time.

Of course, we have our own faults and errors. Take the breakdown rate, for example. Ever more powerful units are being introduced at strip mines. Each hour of idle time "subtracts" 3,000 - 5,000 tons of coal. Unplanned stops are only very slowly being reduced. However, the first two factors -- railroad cars and refusals -- somewhat cover all our losses. Apparently, the USSR Ministry of the Coal Industry takes this into consideration and corrects the association's plans, but we Ekibastuzers have long been unhappy with such "gestures of help".

G. Mozer, a veteran rotary excavator brigade leader, put it correctly at a recent meeting:

"The continual corrections to the plan deprive our competition of any meaning. It turns out that those who are ahead are not those who work better, but those who have had greater plan reductions...."

It is now essential to talk about more than costs to morale. Targets increased by a million tons naturally require additional equipment. Every year new excavators and locomotives are sent to the wroking faces. Extraction, however, grows more slowly than the ministry's initial plans. The excess equipment reduces productivity and leads to wastefulness.

At meetings and discussions with communists the question has been repeatedly raised: Who should bear responsibility for the fact that the labor collective, created in the most difficult conditions of the Kazakh steppe and which has highly mechanized modern equipment, is among the lagging? Why don't the sector management and USSR Gosplan develop taut, but realistically based targets?

As a worker, I will frankly say that there is an opinion here that the USSR Ministry of the Coal Industry counts upon the magnitude of Ekibastuz operations to cover the sector's faults. For the third time in the current five-year plan we have been given a plan which exceeds the strip mines' planned capacity. Although the collective is not meeting the target, 5 to 5.5 million tons are again added on. Every year in orders and sector meetings there is a "struggle" for a taut plan, while at year's end the failures are written off to railroad car shortages and other objective reasons.

We feel that such a planning system does not promote efficient work and reduces the intensity of socialist competition. At the June (1983) CPSU Central Committee Plenum it was justly noted that it was necessary to create economic and organizational conditions which would stimulate high quality, productive labor. At Ekibastuz success above all depends upon the balanced work of power producers, railroaders and miners. I think that this will have a greater effect than the repeated rewriting of "paper" tons on order after order. Ekibastuzers are capable of struggling for first place in All-Union Socialist Competition and are ready to further increase the flow of coal, but this requires a well thought out planning system and clear guidelines to work.

11574
CSO: 1822/51

EXTRACTION OF COKING COAL AT KUZBASS MINE DECLINING

Moscow IZVESTIYA in Russian 20 Nov 83 p 2

[Article by IZVESTIYA correspondent P. Voroshilov: "The Difficult Seam. Why Coking Coal Recovery Is Declining at a Certain Leading Kuzbass Mine"]

[Text] If you look at the accountability indicators for the "Tsentral'naya" it appears to be a flourishing and prosperous mine. Judge for yourselves: this year almost 90,000 tons of above-plan coal have already been recovered and the output sales target has been substantially covered. Through reductions in prime costs, solid additional profit has been derived, and labor productivity is somewhat higher than the established normativ.

Look around and rejoice. And indeed, our conversation with the mine director, F. Tuzovskiy, started in a major key. But of course, it could be no other way. This man assumed his duties when the "Tsentral'naya" was lagging on all points. He managed to do something about it--not immediately, of course. The reconstruction of the goaf, for example, is now going ahead at preferential rates.

The production opportunities have altered in these last years. The brigades-of-a-thousand, well-known in the Kuzbass, are working on comprehensively mechanized faces with self-advancing supports. And here the seam is very variable in terms of yield amd there are "tiny faces" [laveshki], small and narrow as cracks, and the pressure is enormous. Four supports as thick as telegraph poles must be placed in every square meter. The effort requires an uncommon skill.

The miners must be given their due; they are working in complex conditions and they maintain coal extraction at a high level. In addition to the underground workings, the mine also produces using the open-cast method since it also has two open-pit mines. It is preparing a new work level using the proprietary method, and is opening up the coal field alloted to it at the Yerunakovskiy deposit.

The collective at the "Tsentral'naya" is stable and reliable. All the recovery and preparation brigades are working on a contract basis and wages depend directly on the final result. This is helping to enhance the miners' initiative and activeness. Unproductive stoppages have been reduced and each link passes on the face to the next in good condition. The fifth section was recently handed over complete as a single work order.

But my song, as they say, tells of other things. My notebook contains figures taken from the indicator board; they are joyless figures. During the past 8 years average daily recovery at the mine has declined by 1,000 or more tons. A step backward has been taken. Next year it is proposed to remove another 180,000 tons from the annual plan. Labor productivity here is one of the lowest in the basin, while, on the contrary, prime costs are among the highest.

What is happening? The indicators at the mine are not bad, but the collective has fallen from its leading positions. The "Tsentral'naya" is a living history of the Prokop'yevsk mine, in whose necklace it has always been a pearl of the first luster. It was here that the first tons of coking coal were brought up, which then became the basis for development of powerful ferrous metallurgy in the Urals and Siberia. Fifty years later its collective received the high honor of producing the symbolic one billionth ton.

I well remember the time when almost as soon as the records had been set for extraction and tunneling they were broken again at the face. When just starting out in journalism, I myself wrote about them in enthusiastic reportages in the local city newspaper. And there was something to write about. Brigade leader P. Usov, the mine's first Hero of Socialist Labor, who had a team of 12 face workers, brought up from under its protective mantle some 12,000 tons of coal in a month. V. Getunov's brigade, which also produced 20,000 tons one October, had to work on five faces and the numerical strength of the team had to be brought up to 100.

The "Tsentral'naya" enjoyed great labor glory during the introduction and assimilation of the shielded system for working large steeply inclined seams. The free and constant pressure in the mine was used to move the supports protecting the face and the excavated coal was moved from the face using gravity devices--you opened the hatch and filled the car. But later the situation deteriorated sharply in the lower workings.

We note that there was nothing unusual in this. Everything was in accordance with the initial calculation, the system prediction, confirmed by the figures from a geological survey. The task for the sector headquarters and the scientific research and design centers was to find technical means and materials insuring elasticity of the roof span, support for these same boards. He who seeks will find! It turned out that the perverse steep seam in a unique deposit was not so much beyond the capability as outside the purvue of the various administrative research institutes, and using various plausible excuses they assumed the positions of outside observers. In the Prokop'hevsk association, the headquarters of the sector, the matter was allowed to slide, but the collective's burden was lightened. Is this right?

The design of the new shielding roof spans moved along the path of production rationalization, without providing anything sensible. In the final analysis, shielded recovery was halted. But alone of all the mines in Prokop'yevsk and Kiselevsk extracting the most valuable coking coals, during the transition to the deeper horizons, the "Tsentral'naya" was left without efficient excavation systems and the proper technical facilities.

It is not only the brigade of V. Getunov that places the "telegraph poles" in the cracks of seams. When organizing rapid tunneling, the brigade of Yu. Dunayev

had for its assistance only the notorious mechanical shovels that the miners accurately call "the wooden plows." Meanwhile, only the Kuznetskiy Scientific Research Institute of Coal, as before, was studying the mechanization of the labor-intensive processes on steep seams all alone, in splendid isolation. The position was further worsened by the fact that the equipment that it makes is produced only in small batches. In conversation with Yu. Dunayev I recalled the institute's self-propelled complex, the track-mounted drills and the manipulators for drilling blast holes.

"All that," he said bitterly, "was just dressing up mutton as lamb. We tried to come to an agreement with the institute. Here, we said, are the specific conditions: help us not with a complex of machines but just means of small-scale mechanization that will make our work easier. The cooperation was not established. It is the large-scale, global matters that interest our scientists. In their opinion small-scale mechanization should be dealt with by a specialized scientific-production association located in the Ukraine. Try them, they said."

The "Tsentral'naya" collective has often been forced to work seams considered worthless. The 4000-strong collective needs more substantial guarantees, for work without prospects is working blind. The "Tsentral'naya" does have prospects. A new horizon must be rapidly prepared and the reserves in the Yerunakovskiy deposit opened up. If a shorter road is found for them they will succeed in making the turnabout.

Usually it is the specialized mine-construction organizations that handle the reconstruction of existing coal enterprises and the work on new ones. However, they are getting things moving so slowly that the miners are relying on their own reserves and carrying out construction using the proprietary methd. But a laudable initiative needs support. And unfortunately, they do not sense this support. Questions of funding the projects being constructed using the proprietary method are unresolved. The preparation of design documentation is delayed. Many questions have stacked up that should be decided by the USSR Ministry of the Coal Industry.

In order for the mines of Prokop'yevsk to maintain today's level of recovery it is necessary to accelerate the rates of reconstruction, and this is not being done. The steep seam awaits new mining machines that insure high productivity, and is still waiting for an efficient system for excavating the coal. It is time to involve the appropriate scientific and research centers and machine building plants in finding a solution to this problem. Building new mines by way of initiative will cost a pretty penny. It is therefore worth thinking about how to strengthen the available mine-construction organizations in the Kuzbass.

In August a particularly unfortunate situation developed at the "Tsentral'naya": for various reasons several faces were out of commission at the same time. At the other faces, there were four full shifts instead of three. As a result, in the 10-month period the mine not only met the plan target but even overfulfilled its pledges for annual extraction by 12,000 tons and saved more than R850,000 of state funds.

Nevertheless, the feeling of dissatisfaction in the collective remained: it would be possible to achieve even more in close cooperation with science and with real help from the sector headquarters.

REORGANIZATION TO IMPROVE OPERATING EFFICIENCY AT COAL MINES

Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 12 Nov 83 p 2

[Article by V. Yalevskiy, general director of the "Yuzhkuzbassugol'" production association, Hero of Socialist Labor: "The Search Zone"]

[Text] Novokuznetsk--In recent years a trend toward declining recovery from underground mines has been observed in some coal basins. As in the other recovery sectors of the national economy, a number of objective factors have been exerting an adverse effect. One is that with the transition to the deeper horizons, mining and geological conditions have become more complicated and the complexity and labor-intensiveness of the work are growing. In order to maintain the recovery level reached it is essential to construct new mines and horizons, in other words, make considerable capital investments. And this is not always possible.

Most of the mines in our "Yuzhkuzbassugol'" production association have been worked for decades. The more productive seams have been either completely or mostly worked out and operations have been switched to the deeper horizons. Our newest existing mine--the Raspadskaya"--was brought into operation 10 years ago. Our miners know all about rock falls, outbursts, frequent presence of gas and other surprises just as unpleasant. Nevertheless, in general the association is not only coping with its planned tasks, but year after year builds up recovery volumes.

This year, for example, fuel recovery has reached the highest level in the history of "Yuzhkuzbassugol.'" For the first three quarters of the year the increase amounted to 640,000 tons compared with the corresponding period last year. We note that recovery of the most valuable coals--coking coals--also increased. Important indicators such as labor productivity and the work load on the stope are also growing.

We see the explanation of this first and foremost in the fact that in a more complicated situation the main reserves have been correctly established and step taken to utilize them rapidly. Our specialists and leading workers, proceeding from the changing conditions, have chosen those main directions along which they can obtain a significant effect by means of making better use of available technical facilities. And the lever with which this has been done has been an improved system of production management.

The same mechanisms can be used with varying efficiency. For example, in the coal industry, mechanized stoping complexes have been used extensively on gently sloping seams. We are also receiving quite a few of these, with various capacities and load-carrying capacities. Some are good, some not so good, but the machine builders have completed their part of the work. The rest is up to us; which complex can be used where to produce the greatest return, according to operating conditions?

To answer this question correctly means not only to recover extra thousands of tons of coal but also to prolong the service life of valuable equipment. Accordingly, within the association we use the practice of recruiting the best specialists from among the engineers and workers so as to determine which particular complex should be used in which particular longwall. As a result, the work load for the mechanized stope increases. True, it must be noted that that there are 16 faces in our mines where the daily recovery is less than 1,000 tons of coal. It would seem that the reserves here are by no means exhausted.

The same can be said of the roof bolting, long known in mining. If the possibilities for its use are correctly determined it makes it possible to substantially reduce labor and material expenditures on carrying out mining work and to raise the labor productivity of tunnelers. At the "Yuzhkuzbassugol'" each year more than 80 kilometers of workings are secured with roof bolting of various designs. This is one of the highest indicators in the sector.

I have cited two examples of how by using widely available, series-produced technical equipment it is possible to insure high recovery and tunneling rates. Moreover, within the association there is a permanent exhibition where technical and technological innovations that have been successfully used at our enterprises are demonstrated. It is a kind of school of leading experience, accessible to everyone.

Nevertheless, when it is a question of how the "Yuzhkuzbassugol'" collectives have succeeded in insuring stable work, along with the technical measures, and perhaps ahead of them, must be placed the organization of the business and improvements in production management, primarily the preparation of the stoping front.

Today preparation for production in the coal industry is a quite broad concept. There was a time when in essence it meant the same as tunneling for the mine workings, at the conclusion of which coal extraction could start literally the next day. And so we used to say: "Meters of tunneling are tons of extraction." Now we often encounter the kind of situation in which the plan for tunneling is overfulfilled while there are no faces. As a result the extraction plan is disrupted.

Under the new conditions, only about 60 percent of labor costs are for tunneling. The rest goes for preparation of completed work being fitted out, the fitting out itself and setting up of excavating equipment, and carrying out measures envisaged by the technical safety regulations. In addition, we must take into account the fact that the requirement on the mine managers is constant for recovery while it is episodic for the preparation of stoping

fronts. In the understandable in general, desire to fulfill the recovery plan today, during the current month, we lose sight of the long term. In this fact we saw the need to restructure production management so that specific people would be freed from the "press" of current concerns and start to work with an eye to the future--the immediate future and the long term. It is quite understandable that they had to be given certain rights--operational independence, the provision of resources and so forth.

The first to be restructured were the production preparation services at the "Kapital'naya" and "Raspadskaya" mines. And this is now the second year that these collectives have been working rhythmically and successfully fulfilling the state plan. Relying on their experience we took the next step. The USSR Ministry of the Coal Industry gave us permission to conduct an experiment at the mines imeni V.I. Lenin and imeni 60-letiye SSSR: a reorganization of the management system for technological characteristics.

Under the existing structure the mine production service is involved in essence with everything. But since the main purpose is coal recovery, this is what receives its main attention. All other work is of a subordinate nature, as it were. At the mines where the experiment was conducted the production service was split into three cost-accounting sections, for production preparation, coal extraction and operational management. The latter includes transport facilities and material-technical supply--everything that insures the tunneling and extraction.

This kind of reorganization, effected without any increase in the numerical strength of administration and management personnel, brings something fundamentally new into the organization of the production process. Thus, it used to be that some work was duplicated during preparation of the stope. First the assembly work was done for the tunnelers and then equipment was set up for extraction. And as a rule, both operations were incomplete, and sometimes inadequate. But now one service hands over the stope to another in accordance with all the rules, taking operating requirements into account.

It is also important that the production preparation service at these mines is no longer an auxiliary subdivision. In the long term we intend to give the cost-accounting services a certain independence and enough rights for them to be able to carry full responsibility for their section of the work. Through specialization we shall be able to achieve greater professionalism and have stable cadres. Evidently it will also be expedient to set up primary party and trade union organizations in the services.

The main thing is that this kind of reorganization makes it possible to prepare the new stopes more rhythmically and in accordance with requirements. We have calculated that each year the association loses 1.5-2 million tons of coal through the untimely preparation of the stope alone. And today we have every justification for saying that this reserve can be brought into play without using additional labor or material resources through improving production management. And this means that it will be possible to insure further labor productivity growth under the increasingly complex mining and geological conditions.

9642
CSO: 1822/100

ELECTRICAL MACHINERY URGED FOR MINE DRILLING, TRANSPORT

Moscow PRAVDA in Russian 26 Oct 83 p 2

[Article by Sh. Bolgozhin, director of the Institute of Mining Affairs and corresponding member of the Kazakh SSR Academy of Sciences (Alma-Ata): "Mining Machinery Needs Electric Drive"]

[Text] In recent years, scientists of various countries have searched strenuously for methods for converting the drilling and transporting machinery in mines to electric power. We also have been doing such work. The electrical-equipment industry is producing the necessary electric motors and the energy bearers in the wide range of standard sizes that are needed for this purpose. The difficulty is the fact that we, the miners and the mining-machinery designers, are not using existing possibilities adequately, preferring to rely upon equipment that we have been long accustomed to. Meanwhile, it can be boldly asserted that the main direction here should be the creation of mining machinery with electric motors, including those that work on batteries.

The Kazakh SSR Academy of Science's Institute of Mining Affairs has created a set of electrical mining machines which are being tested at a number of our country's ore mines. New technical solutions have been protected with patents. These include drills with electromagnetic drive and transport machines with both electromagnetic drive and electric motors that are powered by batteries. The innovations have enabled the heating of electric motors to be reduced and practically stabilized and, thereby, their power and efficiency to be increased.

Let us try to compare the machines we have created with serially produced equipment.

Pneumatic machinery is being used widely to drill blast and other holes. They are simple to service and are reliable in operation, but they also have serious deficiencies. Losses of energy in converting the energy from electrical to pneumatic energy, large air leaks in the main lines, and imperfections of the machines themselves lead to an efficiency factor (KPD) of about 2-6 percent. Moreover, the compressed air that is generated is accompanied by noise that exceeds the norm by far. Simultaneously, very fine droplets of oil and water are discharged, forming an oily aerosol and fog that are harmful to health and interfere with vision at the workplace.

According to the forecasts, hydraulic drills will be used more widely in the next few years. Their efficiency reaches 25-35 percent. But the amount of drilling they do throughout the world is still not very large. The fact is that the hydraulic holemaker requires very high precision in manufacture, the machine is less reliable under difficult operating conditions, and the demands for quality of cleaning of the energy bearer and for the skill levels of servicing and repair personnel are increased.

Much more promising, in our view, are electric drills. Experimental models of our electromagnetic drilling units have an efficiency of 30-40 percent, the electromagnetic hammers 40-45 percent. The design of the electromagnetic holemakers is incomparably simpler, but the operating coils of their percussion component quickly overheat, which is intolerable.

Our institute's specialists have managed to overcome this deficiency. An experimental model of an electromagnetic holemaker has been created for drilling blast and other holes of small diameter in hard rock. Their power coils are cooled by water by means of hollow polar dissipators. During tests of their thermal and power-engineering characteristics, they operated continuously, without shutting off the electromagnetic impact mechanism, for 185-190 minutes. The holemaker operates from the 380-volt AC industrial-frequency net. Speed of drilling blast and other holes is much higher than with the use, under the very same conditions, of such high-powered pneumatic holemakers as the PK-75.

Computations indicate that the use of electromagnetic machines for drilling blast and other holes throughout the Kazakh SSR Ministry of Nonferrous Metallurgy alone would enable more than 20 million rubles to be saved each year, thanks to a reduction in electric-power consumption. No less important is the fact that, in so doing, the sanitary and hygienic working conditions would be improved--the oily aerosol and fog at mine faces would be eliminated and the noise level reduced.

Tests of this machine that were conducted jointly with specialists of the ore mine "40 let VLKSM" of the Leninogorsk Polymetals Combine of Kazakh SSR Mintsvetmet [Ministry of Nonferrous Metallurgy] have confirmed the fundamental correctness of the design decisions it embraces. The results obtained during the tests will enable conversion to the building of industrial-test models. However, this stage will depend more upon the appropriate decisions of USSR Gosplan and the mining industry than upon the institute.

After drilling, the ore that has been broken up by blasting is loaded into high-capacity underground diesel dump trucks of 20-30 tons' load capacity. A trend toward using for these purposes loading and transporting machines (PTM's) that are produced in diesel versions primarily for ore mines has been noted. They are capable of operating also as a means of delivery, but they greatly pollute mine-face space, which is difficult to ventilate, with exhaust gases, and they consume much diesel fuel. Here also electric drive "asks to be taken on."

Our institute is working also on this problem. We have built electrical PTM's with a combination power feed: when operating at a mine face they get power

from the regular electric-power plants through flexible cable, which is plugged automatically into the power grid upon the machine's arrival at the mine face. The batteries also are recharged simultaneously through that same flexible cable. In moving from mine face to mine face and when delivering ore to the ore chute, the PTM's engine receives its power from its batteries, which permit mobility without the use of a diesel engine.

Nevertheless, loading and transport work at underground and surface mines for ore and other materials are basically performed separately. High-capacity diesel dump trucks are used to transport ore. We propose to replace them with battery-powered trolleys created in our institute that will be just as capacious. When maneuvering at a mine face during ore loading, they will get electricity from their batteries. In moving along the main transport arteries they will automatically be reconnected to the power supply from the contact network, and simultaneously the batteries will be charged. The Mogilev plant's serially produced underground dump truck will be the base for this vehicle. The design uses an electrical thyristor control system and new types of batteries that will enable continuous operation, with a great reserve at the most important section--during maneuvering at a mine face. An automated device is called for in order to reduce the time required for switching the dump trucks to the contact network and for disconnecting the truck from it.

A test model of the battery-powered trolley dump truck has been undergoing tests successfully at the Novomoskovsk Gypsum Combine. Preliminary results indicate that it is on a par with the basic diesel dump trucks and, at the same time, it does not pollute the atmosphere. According to the combine's data, the estimated annual benefit per battery-powered trolley dump truck will be 15,000 rubles. Indeed, thousands of them will be needed.

These innovations are by no means the equipment of the future: mining work needs them today. In speaking about electrical mining machinery for tomorrow, the institute has on its books a scientific backlog of work performed and plans drawn up for further development. This refers particularly to electrical ore-mine cutter-loaders with an implement that will enable rock to be destroyed by direct action of so-called surface current discharge on it. This physical phenomenon was discovered by our institute's scientists. The desirability of wide use of this innovation not only in mining but also in the automotive industry was reviewed and approved recently by the Presidium of the Kazakh SSR Academy of Sciences.

What, one might ask, does mining and automotive manufacturing have in common? However, tests are now being conducted of a new system of ignition for automotive engines that uses surface current discharge. It is explained that, thanks to the more complete burning of the fuel mix in the engine's cylinders, fuel consumption is reduced more than 10 percent, with a simultaneous sharp cut in the toxicity of the exhaust gases.

This electrophysical phenomenon still interests us more from the point of view of mining practice. Therefore we have set ourselves the task of building powerful current discharge generators and to equip the operating implements of ore-mine cutter loaders with them. We do have a scientific backlog of work also on the creation of electromagnetic transport and lifting machines.

The idea of replacing wheeled and rail transport for moving mined material of various types with continuous-action mechanisms, including pneumatic-container, pipeline and other types of transport, is promising. In one of the integrated programs for the 11th Five-Year Plan, it is planned to test in Dzhezkazgan an apron ore conveyor that was created by Kazakhstan scientists. The equipment is manufactured under our patents for so-called electromagnetic container transport.

The traditional skip and cage hoisting, which have been used for centuries, are gradually exhausting their potential. Electromagnetic container and pneumatic-container transport have no restrictions, either on length of delivery or the angle and depth of lifting of the mined material. We became convinced of this during testing of an experimental working installation of this type that we created jointly with scientists of the Karaganda Polytechnical Institute. Karagandugol' [Karaganda Coal Production Association] has singled out one of the old mines for us for full-scale tests.

The USSR State Committee on Science and Technology recently recommended that the Union ministries of nonferrous and ferrous metallurgy and the construction materials, electrical-equipment, automotive and heavy-machinebuilding industries extend assistance in developing a whole integrated program that is oriented to solving this problem. This refers to significant improvement in the miners' working conditions and a sharp rise in mining-machinery productivity, based upon electrification. This is why there must be concern that the new mining equipment will move more quickly along the remaining portion of the production path.

11409
CSO: 1822/101

COAL

NEW HEADING MACHINE SUCCEEDS IN WET NIKULINSK-FIELD COAL MINE

Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 27 Nov 83 p 1

[Article by I. Aryasov (Tula Oblast): "The Nikulinsk Heading Machine"]

[Text] Several years ago the geologists made it more precise: the Nikulinsk field in Tula Oblast contains 150 million tons of brown coal. A rich gift. But it lies at a depth of 140 meters, and water washes around it on all sides. And the coal is needed: each year the underground mines in the Moscow Basin increasingly move on to "extinction."

Nowadays the new Nikulinsk Underground Mine is the main job of Mosbassshakhtostroy [Moscow Coal Basin Underground-Mine Construction Combine]. It is the only underground mine of USSR Ministry of Coal Industry where the main drift is being driven by a KShch-5.2B heading machine.

This machine was designed by TsNIIpodzemmash [Central Scientific-Research Institute for Underground Mine Machinebuilding] specialists, and the Skuratovskiy Experimental Plant built it.

"The advantages of the heading-machine method for tunneling mine excavations are obvious," says Nikulinsk Mine-Construction Administration chief engineer V. Smol'skiy. "For each running meter of arterial mine working, we save 753 kilograms of metal, almost 4 cubic meters of concrete, and nearly a cubic meter of timber. Labor expenditures have been reduced by 53 man-hours."

...Here it is, that greatest depth--140 meters, which so intimidated the skeptics. The pumps that suck out the water drone powerfully. Overhead is the white glow of luminescent bulbs.

Mine foreman Oleg Gustavovich Gidt, mechanized-column chief engineer Leonid Ivanovich Salomatin and I walk together along the main ventilation tunnel. Dressed in the strongest of "jackets," made of reinforced-concrete blocks, the tunnel is not much different from ordinary subway tunnels. But instead of passenger cars on the rails, there are mine cars here with rock.

"I told everyone that the mine can be built, that the water can be overcome," says Salomatin. "And here is the heading machine."

Ahead is a long conveyor, which is loading cars with rock. Pressing up against the wall, we go on. The enormous mechanism is working, but there are no people to be seen.

"There are people," says Gidt, "you can't get along without people."

Heading machine operator Petr Yakovlevich Meshcherkin approaches:

"There are seven tunnelers and a duty mechanic per shift. We take the most competent on the header; the machine is complicated and requires delicate handling. Mechanic Volodya Lopatin, for example, can repair even a color television set, electronic clocks, and the laser that is on the machine. The designers helped us to master this equipment...."

"Write down," Oleg Gustavovich illuminates my notebook with a light, "designers Boris Petrovich Gladyshev and Vladimir Yevgen'yevich Kudryashov. They spent days in the mine and they lived here in a mobile hut. Many considered that our heading machine will not go through flooded sand, but we did it. Right now subway builders have come here for experience."

The heading machine is good, but there are complaints. First, it is rather heavy. Second, it does not let drainage work be performed simultaneously. But this is true also for other machines, which should mandatorily come to the aid of the underground-mine builders.

The brigade of Hero of Socialist Labor Nikolay Semenovich Kuz'michev is tunneling in one of the workings. At the initiative of supervisors of Tulaugol' [Tula Coal Production Association], the celebrated miner came here more than 2 years prior to the startup and in a short time created a strong collective.

At each of the 13 mine faces, people are operating with fervor, gaiety and satisfaction. The annual plan for mine-working penetration was completed by the Great October anniversary.

11409
CSO: 1822/101

PROBLEMS IN DEVELOPMENT OF KANSK-ACHINSK COAL BASIN DISCUSSED

Moscow IZVESTIYA in Russian 19 Nov 83 p 2

[Article by IZVESTIYA correspondent A. Shcherbakov, and B. Pichugin, chief of the CPSU Krasnoyarsk kraykom coal industry sector: "The Kansk-Achinsk Fuel and Energy Complex. What Is Hampering the Accelerated Construction of Its Projects"]

[Text] Krasnoyarsk--Today the Kansk-Achinsk fuel and energy complex [KATEK] is not simply a resounding name, not simply a symbol of energetics in Siberia, but projects that actually exist in a territorial-production complex formed on the base of local coals. Four years have elapsed since the adoption by the CPSU Central Committee and USSR Council of Ministers of the decree on the creation of the KATEK. This, of course, is not a long period of time for an enormous construction project. Given the present scale of work, however, it has been enough to sum up some of the results.

During this time the collectives of the USSR Ministry of the Coal Industry and the USSR Ministry of Power and Electrification have completed much labor. General plans have been drawn up for the Sharypovo industrial center and the cities of Borodino and Sharypovo. An institute on the problems of the Kansk-Achinsk basin--KATEKNIIugol--has been set up in Krasnoyarsk. General contractors, namely "KATEKuglestroy," the "KATEKenergopromstroy" association and others, are engaged in construction work. During these 4 years 250,000 square meters of housing have been handed over. Miners and construction workers in Sharypovo city and the settlement of Dubinino have obtained a youth center, club, cafe, several stores, schools, kindergartens and other cultural and everyday objects. An air route has been opened and a company train runs from the kray center.

But the main thing is that capacities for the extraction of 5.5 million tons of coal annually have been commissioned. So that the "flow of energy" from the KATEK is already tangible for many enterprises in Siberia. New boiler units and generating capacities are operating at the thermal power stations in the Krasnoyarsk power system, and new power transmission lines have appeared.

This is all real. The accomplishments are there for all to see. However, they are a cause for joy only until they are compared with the targets. There is an unexpected obstacle, and the hopes for accelerated rates in the development of the KATEK remain unjustified. Acceleration is going very slowly.

The reasons? There are many. However, they tell you the main reason immediately. Everyone, from the rank-and-file construction worker to the construction site chief, agrees unanimously that the whole business depends on housing. Year after year the "KATEKenergopromstroy" association fails to complete the housing construction plans. Regardless of how impressive the figure cited above for handed over housing may be (one-fourth of a million square meters), it is only half the planned amount. And the houses being offered are from obsolete series, with dull architecture, inconvenient and simply not suitable for the city of the future.

There are few apartments, and without them there is no population. At the KATEK the housing shortage is accurately matched by a labor shortage. Today the numerical strength of the workers is only half what is required. The labor collectives are being formed only slowly. And, let us say it directly, not from the most skilled personnel. This applies not only to workers but also to engineering and technical personnel. Turnover is high. Many collectives are completely renewed within the space of a year. And this is closely connected with misfortunes such as poor engineering preparation for production and a low level of operational management in construction.

In a conversation, bulldozer operators M. Solov'yev and N. Veselov acknowledged with bitterness: "When you come to work you do not know what you will be doing. The targets are contradictory and there are many changes. For example, the foundation pit beneath the shell of the Itatka substation was dug twice, and the trenches for the housing construction plant as many as three times. The engineers were not there, you see, they had not marked them off..."

Communist Mikhail Solov'yev has been at both the Sharypovo GES and the Sayano-Shushenskaya GES. He is able to compare the two very large construction sites in the area. And the comparison is not in favor of the KATEK.

"In Sayansk you sense the general enthusiasm and atmosphere and you really set to, like on a holiday. But here there is still no spirit of an all-union shock construction site. Stagnation and confusion reign. The houses they build are wretched: they finish the fifth storey, and the first storey falls down... It is the same almost everywhere."

Of course, irritation somewhat darkened the colors of our interlocutors, but they are right about much of it. Executive discipline at the construction sites is still poor. No cooperation has been set up among those combining professions. While there is overall growth in the association collective, the trend to reduce the number of workers engaged on construction and assembly work is causing anxiety. Another symptom is just as alarming--the decline in labor productivity.

This is an ancient "echo" of the lack of attention to housing and the disproportion in the construction of production and social projects. Well then, why are the houses being constructed so slowly? Mainly because of shortages of parts and structures. They are delivered from the plants of the USSR Ministry of Power and Electrification located in Irkutsk and Kemerovo oblasts a thousand kilometers away. But why are they brought across such

distances? An entire city has to be transported. Parochial attitudes are having their effect here. For example, the Tom'-Usinsk housing construction plant was set up using KATEK funds and should be working for it. But KATEK pays the piper while those on whose territory the enterprise is located call the tune. More than half of the structures are just piling up there.

There is another question. Today it is clear to everyone: in order to construct Sharypovo city successfully (and this means also the projects in the industrial center) it is necessary to set up its own construction industry base as a matter of urgency. This task was assigned to the USSR Ministry of Power and Electrification. It is being resolved slowly. The Sharypovo large-panel housing construction plant whose handover was planned for the end of the last five-year plan has still not been built. And even when it is officially commissioned it is not known how it will operate. What will the panels be made from?

The fact is that the problem of the production of inert materials has not been solved. It was intended to double capacities for the production of crushed rock at the Nazarovo reinforced-concrete structure plant and, in addition, construct a crushing-and-grading plant by this year to produce two million cubic meters of graded crushed rock annually, and a sand quarry with a washing shop having the same capacity. So far this is still all only on paper. Reconstruction of the Nazarovo plant has not even begun. Moreover, the existing production facility has one foot in the grave--the equipment has finally worn out. Last year only one-third of capacity was used. And the present plan calls for double that.

Crushed rock is needed not only by the housing construction plant but also others participating in the development of the KATEK. For example, the railroad and highway construction workers. The shortage of inert material is already being felt today, and with the commissioning of the housing construction plant the shortage will significantly worsen and enterprises will experience stoppages. The kray organizations are trying to help but the kray's facilities are limited. Without the creation of the planned enterprises, construction materials will simply not be available.

A current decision is also needed for another problem. A discredited planning practice has been established in the construction of the energy part of the complex: in essence, the volumes of construction and assembly work are not "matched" with the plans and facilities for material-technical support. Thus, the commissioning of housing planned for this year was supported neither by funds nor by deliveries of housing construction articles. The energy construction workers have not been supplied with material resources from their ministry. And the assets used for planning and surveying work were insufficient. As a result, planning has been halted for projects in the first energy unit of the complex about to be commissioned. And meanwhile, its commissioning is scheduled for the not too distant future.

An out-of-town meeting of the USSR Ministry of Power and Electrification collegium was held in Sharypovo on these questions. It was chaired by

USSR Minister of Power and Electrification P. Neporozhniy. New measures were outlined for accelerating the construction of the KATEK. It is to be hoped that they will be effective enough. True, up to now, apart from the shift in emphasis in some subdivisions of the association, no marked advances have been seen. And already more than 2 months have passed.

The energy construction workers love to cover lagging with the use of objective difficulties, but these difficulties are often invented and quite resolvable by "subjective" efforts. The "KATEKuglestroy" combine has proven this through its own energetic actions. Until recently its collective differed little from its neighbors. The same lack of coordination, miscalculations and plan disruptions. But last year there was a sharp turnabout. The volumes of construction and assembly completed during the year increased by a factor of 1.5. The target for labor productivity growth was also attained.

What kind of "magic wand" suddenly appeared in the hands of the combine people? There were two: clear operational planning and control. Weekly and daily planning has been established here as the basis for work organization, with precise determination of tasks for subcontractors at all projects. There was an immediate demand from brigade and section leaders and management for task fulfillment. The interaction of the subdivisions became precise. Supplies of materials were correspondingly tightened. The combine management gave special attention to production engineering preparation.

The success has now been underpinned. For the first time in its history the collective has won a challenge red banner of the USSR Ministry of the Coal Industry and the sector trade union central committee. This means that despite all the difficulties, it is possible to work successfully at the KATEK. And, of course, to work with a will, uncover reserves and seek out not justification but ways to solve problems.

Unfortunately, the the assembly workers are letting down the coal miners. The collectives of the "Glavkrasnoyarskprommontazh" and "Krasnoyarskstal'-konstruktsii" who are working on the "Berezovskiy-1" mine constantly fail to cope with their tasks. Serious claims are being made against the USSR Ministry of Transport Construction. Increasing amounts of materials and equipment are coming from the KATEK, and increasing amounts of coal from the mines, and the volume of freight is increasing; and the available roads and stations cannot support them. Meanwhile, the "Krasnoyarsktransstroy" trust is not only failing to fulfill planned volumes of work but has in general refused to do it. This is to some extent understandable: there are labor and equipment shortages and the material base is weak. There are no basic fabrication sites in either Sharypovo or Dubinino. Ties and rails are carried by hand. You will not get very far with this kind of "technology."

And so, experience in construction of Sharypovo city and other KATEK projects indicates that they urgently need their own powerful construction industry base. Supplies of materials and structures from outside are too costly and unreliable. Suffice it to say that during the last 4 years the plants of the USSR Ministry of Power and Electrification have failed to supply materials for 110,000 square meters of housing to the construction workers. And such an area would provide support for the thousands of people who are today missing from the construction site.

An objective assessment of all those participating in the development of the complex was given in the CPSU kraykom and the ispolkom of the kray soviet of working people's deputies. Attention was directed mainly toward preparing for the commissioning of a housing-construction plant and the construction of housing and social and cultural projects, and the development of municipal services and trade and consumer personal services. This is the only way to establish stable collectives.

9642
CSO: 1822/99

EKIBASTUZ MINERS, POWER AND CONSTRUCTION WORKERS AIR COMPLAINTS

Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 2 Dec 83 p 2

[Readers' letters and commentary by special correspondents B. Glotov and V. Zotov: "The Complex and Its Needs"]

[Text] SOTSIALISTICHESKAYA INDUSTRIYA "Mail Box."

Ekibastuz... Its gigantic coal mines include the "Bogatyr," which has no equal anywhere in the world. It is a major energy center where already a second GRES is being built with the same capacity as the first--four million kilowatts. It is also a modern city whose population is being swelled by many thousands each year.

It is difficult to realize that until quite recently there was nothing here but empty steppe. The city's inhabitants, today numbering more than 100,000, live together as a large, friendly working family that is creating a new outpost of industry in Kazakhstan.

As often happens, great accomplishments are accompanied by certain delays in growth. They are also present there in Ekibastuz. Miners, construction workers, power workers, railroad workers and the representatives of other occupations tell of them in the questions that they pose through the SOTSIALISTICHESKAYA INDUSTRIYA mail box. The editorial office has acquainted the union ministries of the coal industry and power and electrification and other interested ministries and administrations with these questions.

USSR first deputy minister of the coal industry V. Belyy, USSR deputy ministers of power and electrification P. Surov and Yu. Semenov, officials of the USSR Ministry of Railways, and officials of the republic ministries and administrations visited Ekibastuz to provide answers to our readers' questions. Not only those who had asked the questions but also their work comrades--more than 500 people--went to listen to them. The Pavlodar obkom and the Ekibastuz party gorkom prepared

the meeting together with the editorial board. It was chaired by K. Shakirimov, secretary of the Pavlodar obkom.

There was a total of more than 100 questions covering a broad range of problems. The greatest dissatisfaction and anxiety are caused by shortcomings in the work of the city municipal services, transportation, and the lagging in housing and cultural and everyday construction. But given all the acuteness of these questions, they were not the main theme in the conversation that took place. The main "thrust" of the meeting was the intensification of development rates for this major fuel and energy base, and what is hampering these rates at its various sectors and projects.

Of the numerous questions we have selected those which expressed the most typical shortcomings that are interfering with the Ekibastuz workers' more productive work. This is how the questions were addressed:

QUESTIONS FOR THE USSR MINISTRY OF POWER AND ELECTRIFICATION

Pimchenko, Lavrinenko and Bat'ko, brigade leaders in the Ekibastuz administration of the "Sibenergomontazh" trust: Power units are being handed over with major faults. This has been repeatedly discussed at meetings and even written about in SOTSIALISTICHESKAYA INDUSTRIYA. We had hoped that the leaders of the Ministry of Power and Electrification would listen to the criticisms and take into account the errors that have been permitted. However, the construction workers at GRES-2 are experiencing the same difficulties as during the construction of GRES-1.

M. Gaynutdinova, chief of the "Ekibastuzenergo" dispatcher service: More than 1,000 assigned workers are now being recruited to service GRES-1. What measures does the ministry envisage for creating a stable collective?

A. Kuz'menko, senior works superintendent in the Energostroymontazh administration: Why has the plan for the commissioning of projects and construction and assembly work been repeatedly changed in the past year? Last August the plan for the commissioning of housing was increased by 25,000 square meters. But the funds allocated amounted to R2 million instead of R5 million. This year the initial plan for the assimilation of capital investments was R76 million, then during the second quarter it was increased to R93 million.

G. Kovalenok, leader of an electrical fitters' brigade at the Ekibastuzenergo-remont enterprise; T. Akhmetova, senior duty electrical fitter at GRES-1: A repair base is needed for the normal operation of power equipment. What is being done to accelerate the construction of a central repair-and-mechanical plant and create a base for the Ekibastuzenergoremont enterprise?

L. Zatonskaya, engineer-economist at the "Ekibastuzenergostroy" trust: In most subdivisions of our trust wages increases are outstripping labor productivity growth rates. Why has this situation came about and what steps are being taken by the ministry and trust leaders to correct this disproportion?

ANSWERS:

P. Surov, USSR deputy minister of power and electrification:

"Let me clarify the difficulties that brigade leaders Pimchenko, Lavrinenko and Bat'ko talked about. They are quite rightly anxious: will the GRES-2 be equipped with combined assembly sites and warehouse premises? Yes, provision has been made here for the construction of open sites with a total area of 250,000 square meters, and six heated and refrigerator warehouses.

"On the subject of assigned workers. Of course, in order to insure the stable operation of existing power units at GRES-1 we were forced to recruit skilled workers from other power stations. The personnel shortage is explained by the fact that we did not fully reckon with the commissioning of housing for the operators."

P. Surov went on to report that during design work for the station the coefficient of family size was lowered. Because of this, the actual requirements for housing were greater than the funds allocated for its construction. The question of a higher coefficient is now being resolved anew.

"There is no secret about the plan changes that senior works superintendent Kuz'menko talked about. The initial figure for the plan is determined in accordance with the protocols agreeing the work volumes. Then, before 15 February of the current year the amendments are made. And what has been underfulfilled in the previous year is added to the plan for the current year."

A voice from the hall: But the additions to the plan were made in August!???

P. Surov: "We have been justifiably criticized for the lagging in the repair base. There is no justification for it. And not all that much effort is required there to bring the work to a conclusion. It is simply that insufficient attention is being given to these projects by the "Ekibastuzenergostroy" trust managers.

"The question of wages outstripping labor productivity growth would be more properly directed not to the ministry but to comrade Zatonskaya who now heads the laboratory of economic analysis. It is precisely the economists who should clarify the reasons for the disproportion and suggest to the trust management how to correct the situation. The fact is that within the trust there are great losses of work time--about 16 percent--and poor use is being made of mechanisms..."

QUESTIONS FOR THE USSR MINISTRY OF THE COAL INDUSTRY.

N. Lesnyak, chief of the instrument section at the mining and transportation equipment repair plant: Major stoppages of mining and transportation equipment are occurring at the enterprises of the "Ekibastuzugol'" trust. Only half the requirements for equipment repair are being met. Expansion of the plant is taking place very slowly. When will the ministry really do something about our repair base?

N. Fedoryakin, deputy chief engineer at the "Stepnoy" mine: The Ekibastuz basin is the largest in the country and evidently the only one that does not have a basin scientific research institute. Many important questions and problems requiring a profound scientific approach are not being resolved in "Ekibastuzugol.'" Now, for example, speeding up stripping work is in a most acute situation. No serious work is being done on this problem. What does the ministry think about setting up an institute in Ekibastuz?

V. Novikov, senior engineer in the technical section at the "Ekibastuzugol'" association: In the near future the volumes of fuel extraction and processing will reach the kind of level at which each day it will be necessary to ship and store up to a million cubic meters of stripped rock and utilize thousands of tons of ash. More effective methods are needed to prevent air pollution. What is being done about this today?

F. Petriy, brigade leader at the "Ekibastuzugol'" repair and construction association: Each year the plans for the commissioning of housing and cultural and everyday projects are disrupted. The reason has been known for a long time: shortage of capacities for large-panel housing construction. No end is in sight in the reconstruction of the ferroconcrete articles plant where these capacities are being developed. What do they think about this in the ministry?

S. Zubko, brigade leader of an excavator team at the "Bogatyr'" mine: This year the "Ekibastuzugol'" association is not fulfilling the plan for the extraction of coal because the target was not balanced with the facilities of the railroad workers to ship the fuel. Despite the fact that each year the association has a shortfall of several million tons of coal for the power engineering workers, all the thermal power stations are operating without stoppages, unaffected by this shortfall. This means that the Ministry of Power and Electrification stocks of Ekibastuz coal are being overestimated each year. Is it possible to balance the plans for the miners and the power workers so as to match the actual situation?

ANSWERS

V. Belyy, USSR first deputy minister of the coal industry:

"The question of inadequate capacities at the repair base and the associated equipment idle time is quite correct. The facilities at the existing plant to carry out capital repair are being fully used, and even overused. Expansion of the plant is being effected by the 'Ekibastuzenergostroy' trust. All questions on this project have been fully resolved. Our ministry has even allocated money to the power workers for the construction of their own housing so that they will be able to augment the collective and construct the plant more energetically.

"The ministry does not yet consider it necessary to set up a basin institute or an institute branch. We shall look at the matter again later. If such a need exists we shall consider the matter.

"The question of prospects for the development of the Ekibastuz fuel and energy complex is major. First, a goal-oriented, comprehensive program must be drawn up. At the present stage a coordination plan has been prepared to compile this program. Execution programs have been determined. There are many of them, about three dozen for the union and republic ministries and state committees alone.

"The following basic stages in the work are envisaged in the coordination plan: the composition and boundary of the fuel and energy complex; the extent to which it is to be developed--with or without the Maykubenskiy deposit; how many power stations are to be constructed; the present level in the economic and social development of Ekibastuz; and so forth.

"The ministry started to answer the question of brigade leader Petriy at long range--from the time that the ferroconcrete articles plant was transferred to the Ministry of the Coal Industry. And that was in 1977. And that was when a start was made on reconstruction of the plant, which no one has been able in any way to bring to a sensible conclusion. The plan for construction and assembly work on the plant is again not being fulfilled this year."

"Therefore," V. Belyy summed up, "the chief of the Ekibastuzshakhtostroy combine A. Pukhteyev must immediately take steps to correct the situation."

"Questions of balnce between coal extraction, shipments, and deliveries to the power stations have been examined more than once this year in the union Gosplan and Gossnab with the participation of the Ministry of Power and Electrification, the Ministry of the Coal Industry and the Ministry of Railways. As a result of steps taken, the work of railroad transportation for the Ekibastuz coal mines has been improved. During the third quarter 806,000 tons of above-plan fuel were delivered. We hope to maintain this rhythm next year also."

OUR COMMENTARY.

The coal miners and power and construction workers left the hall with mixed feelings. On the one hand there was no justification for being dissatisfied; quite complete and authoritative answers had been given to all the questions directly posed. On the other hand, it was no clearer how the acute current problems are to be resolved.

Less than a day before the meeting, which took place in the miners' house of culture, all six of the existing power units at GRES-1 were switched out of the main power network. Consumers were deprived of more than one million kilowatt-hours of electricity. A real emergency had occurred. And it just once again confirmed that brigade leaders Pimchenko, Lavrinenko and Bat'ko, who started their question with the assertion that "power units are being handed over with major faults..." had a serious justification. And the fact that, as the deputy minister reported, the GRES-2 now under construction will have a combined assembly site and warehouses will not make it any easier for those who are operating and fitting out GRES-1.

The station has been in operation for 3 years. Time enough to sort everything out. It operates with very serious stoppages and fails to deliver more than half of its rated capacity. One reason for this is the inadequate professional training of service personnel. It follows from the answer of P. Surov that the Ministry of Power and Electrification is solving the problem with the aid of assigned personnel. We see that the effectiveness of this step is not very great. But there is nowhere local to train personnel or raise their professional level. To put it mildly, the ministry has an inattentive attitude toward the creation of a study and training center. Only now, so the deputy minister reports, is work finished on a technical plan for such a center, while construction is planned only for next year.

One special subject is the status of the repair base. In addition to the questions cited in our report, there were others about the extremely inadequate repair and reconstruction facilities. And not only from the power workers and power construction workers, but also the miners. And what did those present hear about this very acute problem? As is known, V. Belyy said that expansion of the plant that repairs mining and transportation equipment has been assigned to a trust subordinate to the USSR Ministry of Power and Electrification, namely the "Ekibastuzenergostroy." But the trust has not commissioned a single project for the repair base in its own sector, including its own large-panel housing-construction plant. Judging by and large, it will not be rapid in setting to work on the base for the miners. And to explain the lagging in work on repair projects, even if it is his own base, by the inattention of the trust management to these projects, as P. Surov did, means to oversimplify the matter.

To some extent V. Belyy demonstrated the same kind of approach. The instruction he delivered from the dais to the chief of the "Ekibastuzshakhtostroy" combine that the situation must be immediately corrected at the large-panel housing-construction plant will probably produce an effect. But the plant has been under reconstruction for 6 years! In this time it would have been possible to construct a new, more powerful plant, if, of course, the matter had been dealt with properly.

The kind of powerful fuel and energy complex where already today more than 70 million tons of coal are being extracted each year, is unthinkable without a precisely organized transportation conveyer. The coal from Ekibastuz goes to power stations in the Urals, Siberia, Kazakhstan. For uninterrupted operations by the "Bogatyr'" mine alone at least 100 freight cars are needed each hour. In a day this figure reaches more than 2,000. Given these kinds of volumes, the question on organizing the Ekibastuz' own railroad department was not happenstance. While recognizing the correctness of the question when put this way, the Ministry of Railroads representative present at the meeting, Yu. Korobov, limited himself to a statement to the effect that "the question of organizing an independent department is complex." Of course it is not a simple question. Everyone understands this, and so the Ministry of Railways was asked not just this question but others, so that the ministry representative would have an opportunity to offer a specific proposal or opinion at the meeting.

We repeat: for most questions specific and exhaustive answers were supplied. And our commentary has been dictated by a single desire, namely to rivet attention on the problems that are causing a proprietary concern among the miners and power engineering and construction workers of Ekibastuz but that did not receieve adequate airing during the course of the meeting.

9642
CSO: 1822/99

BRIEFS

PAVLOGRAD COAL EXTRACTION--Miners at the mine imeni Stashkov in the "Pavlogradugol" production association have fulfilled ahead of schedule the plan for the third year of the 11th Five-Year Plan for coal extraction and completion of mining workings. Since the beginning of the year 142,000 tons of above-plan fuel have been recovered and 2,700 meters of underground workings completed. [Text] [Moscow SEL'SKAYA ZHIZN' in Russian 27 Oct 83 p 1] 9642

DONBASS MINERS OVERCOME LAGGING--The mine imeni S.M. Kirov in the "Stakhanovugol'" association is one of the oldest coal enterprises in the Donbass. The so-called "fruitful" seams were worked out long ago, and only the small ones remained--45 to 60 centimeters. But even these coal reserves were being worked at a substantial loss. By the end of the 10th Five-Year Plan they had been reduced so much that the question was raised of the very existence of the mine itself. Its closure would have entailed many social problems connected with the development of the mining town. In order to retain the mine, which is rich in revolutionary, combat and labor traditions, it was decided to cut through to another field--the Mikhaylovskiy overthrust. And while the fate of the mine was being decided in the appropriate organizations, coal recovery was declining. During the first 2 years of the present five-year plan the Kirov miners had a shortfall of 215,000 tons. However, the miners did not lose heart and they waged a decisive struggle to overcome the lagging. Since the beginning of the year they have brought about 60,000 tons of extra fuel to the surface to pay off the debt formed since the start of the five-year plan. The miners themselves talk about how the mine is building up the rates of coal recovery. [Text] [Kiev PRAVDA UKRAINY in Russian 25 Oct 83 p 1] 9642

KARAGANDA GEOLOGICAL SURVEY SUCCESSES--The drilling brigade led by U. Gazimiyev is one of the best in the geological survey party of the "Karagandauglerazvedka" expedition. Competing for ahead-of-schedule fulfillment of the plan for the third year of the five-year plan, this collective has pledged itself to drill 12,000 meters instead of the 4,500 set in the plan. The brigade has now already started on its 1984 work. [Text] [Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 12 Nov 83 p 1] 9642

NEW DUMP TRUCK TESTED--Neryungri, Yakutsk ASSR--The country's first BelAZ-75211 dump truck with a capacity of 180 tons has started operation in the Neryungri coal mine. The steel Hercules will carry rock lying on the way to the seams

of coking coal. The test model of the dump truck was delivered to Neryungri by rail along the Baykal-Amur Main Railroad Link in pieces. It was assembled on site under the direction of specialists from the truck plant. The best local driver, V. Sivykh, was entrusted with the task of checking out the vehicle. The coal mine in Yakutiya has simultaneously become a gigantic test ground for Soviet-produced mining equipment. The first models of the 20-cubic-meter Ural excavators and the 120-ton Belorussian coal carriers are being operated there. Each innovation undergoes comprehensive testing in operation. Conditions are complex. They include the frosts of winters and the whims of the permafrost in the summer. Successful testing is helped by creative cooperation between the collective at the technological transport vehicle base at the base and the specialists from the manufacturing plant. [Text] [Moscow IZVESTIYA in Russian 25 Oct 83 p 1] 9642

WALKING EXCAVATOR REFABRICATED--Kokhtla-Yarve, Estonian SSR--The 15-cubic-meter walking excavator at the "Narvskiy" mine has been sent back to the face. The gigantic machine had come to the end of its service life and they were getting ready to scrap it. But the miners discussed it, reasoning that machine tools, vehicles and other equipment are given a second lease on life. And why not renew an expensive excavator so essential for the shale workings? The foreman of the extraction section M. Andreyev drew up a project for renewing the dragline, and the specialists approved it. They went for advice to the Urals heavy machine building plant where the excavator had been made. There they fleshed out the shale workers' idea and helped with spares and materials. And so the walking excavator is starting its second life. And this means that considerable funds will be saved. [Text] [Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 22 Nov 83 p 2] 9642

NEW COAL INSTITUTE OPENED--Kemerovo--The first academy institute has been set up in the Kuzbass--the USSR Academy of Sciences Siberian Branch Institute of Coal. The creation of the Institute of Coal in Kemerovo is natural. The scientists suggest that in time the Kuzbass will occupy a leading place among the country's coal basins. The scientific associates' purview will also include transportation problems. For example, research dealing with long-distance pipeline hydrotransportation of solid fuel. [Text] [Moscow GUDOK in Russian 17 Nov 83 p 4] 9642

ROSTOV MINES EXCEED TARGETS--Rostov-on-Don--TASS--The first hundreds of tons of anthracite for the 1984 plan have been dispatched from the loading areas at the Don's largest mine, the mine imeni 60-letiye Leninskogo Komsomola in the "Gukovugol'" association. Over the last 5 years the miners have dispatched 9.5 million tons of coal, including 1.6 million tons above plan. The rapid work schedule is a distinguishing feature of the Komsomol youth collective. Sometimes fitters and miners work together on the same face, assembling equipment and gaining experience in its operation. This method helps the miners right from the early days to organize stable operations in all sectors, work without lagging, and bring the daily load from the face to 1,000 or more tons. Working cooperation with the scientists is helping the miners to prepare the longwall sections more efficiently and successfully master the new scraping installations. [Text] [Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 22 Nov 83 p 1] 9642

KRASNODON MINERS AHEAD OF SCHEDULE--Voroshilovgrad Oblast--Almost 2 months ahead of the production schedule, the miners at the "Orekhovskaya" mine in the "Krasnodonugol'" association have reported the ahead-of-schedule fulfillment of the plan for the third year of the five-year plan. In 2 years 10 months the national economy received about 18 million tons of fuel, of which 135,000 tons was above-plan. Face workers M. Doroshko and A. Murashkevich have made a substantial contribution to the general success. The leading tunneling brigade led by A. Sashin prepares the high quality line for the stope. [By V. Mikhaylichenko] [Text] [Moscow SOTIALISTICHESKAYA INDUSTRIYA in Russian 11 Nov 83 p 1] 9642

BOGATYR' MINE--Ekibastuz--In order to successfully complete the third year of the five-year plan, miners at the Bogatyr', the nation's largest strip mine, must weekly extract one million tons of coal. On the eve of USSR Constitution Day one can confidently state that rotary excavator crews are capable of this intensive rhythm. Quite recently, at the end of July, I went down to the work face of the unit run by V. Mukishev's brigade. For three days the miners tested the excavator, and on the fourth the coal started flowing. The first month's results were excellent; almost 500,000 tons of fuel. However, Bogatyr' veterans have worked even harder. For example R. Fetser's brigade was six days ahead of the planned schedule, and each day means several thousand tons of coal. The Ekibastuz miners are confident that electric power plants will obtain at least 52 million tons of coal this year. [By Yu. Razgulyayev] [Text] [Moscow PRAVDA in Russian 7 Oct 83 p 1] 11574

NEW EXCAVATORS--Krasnoyarsk--Meeting their main obligation for celebrating their professional holiday ahead of time, Krasnoyarsk machine builders sent KATEK [Kansk-Achinsk Fuel and Energy Complex] miners another two EKG-12.5 heavy excavators. The first two machines with the plant emblem are already working at the Borodinsk coal strip mine. They will soon have reliable reinforcements. B. Yegorov, the general director of the Krastyazhmash Association, said: "We are pleased by the miners' response, stating that our excavators are not inferior to the Izhorsk models. The collective has the difficult task of rapidly creating capacity for the production of 15 excavators annually. [By A. Shcherbakov] [Text] [Moscow IZVESTIYA in Russian 26 Sep 83 p 1] 11574

DON MINERS--Rostov na Donu--Don miners were ahead of schedule in meeting their annual obligations; they produced an additional 700,000 tons of coal. Every sixth mine reported the fulfillment of the plan for three years of the five-year plan. The collectives at the Mines imeni Kirov, 60 Years of the Leninist Komsomol. The best results were attained by the brigade of Hero of Socialist Labor K. Markelov from the Mine imeni 50 Years of October. It produced an additional 820,000 tons of anthracite since the beginning of the year. The brigade of M. Chikh, twice Hero of Socialist Labor, working at the Mayskaya Mine, is confidently subduing the thin seams. Under difficult conditions, it has extracted 500,000 tons of anthracite since the start of the year. [By V. Ksendzov] [Text] [Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 16 Oct 83 p 1] 11574

COAL INDUSTRY RESPONDS--The article "The Departments Are Still Slow" (IZVESTIYA No 220/221, 1983) was studied by the USSR Minugleprom Board and deemed accurate. A ministry order has outlined measures for accelerating the construction of environmental protection facilities in Kemerovo Oblast. Comrade Baranov, chief engineer at the Leninskshakhsostroy [Leninsk Mine Construction] Trust has been severely reprimanded for allowing shoddy work in the construction of a physical-chemical treatment station at the Mine imeni 7 November. Comrade Pavlenko, deputy chief of the Kuzbassshakhtostroy Combine, was given the same for not taking the necessary measures to ensure the introduction of water treatment facilities and for not eliminating shortcomings at treatment facilities at the Mine imeni 7 November. The necessity for the strictest control over the construction of water treatment projects in the Kuzbass and of taking operational measures to fulfill capital construction plans was pointed out to the following: Comrade Alekhin, chief of the All-Union Association, Soyuzshakhtostroy; comrade Okhotinkov, chief of the Kuzbasszhilstroy [Kuzbass Residential Construction] Combine, comrade Chernykh; deputy chief of the All-Union Industrial Association Kuzbassugol', comrade Kasskhin. [By V. Beliy, first deputy minister, USSR Coal Industry] [Text] [Moscow IZVESTIYA in Russian 22 Sep 83 p 3] 11574

COAL INDUSTRY RESULTS--USSR Minugleprom reported to our correspondent that over a 9 month period the nation's coal miners produced about 500,000 tons of coal in addition to their targets. Miners in the Yuzhkuzbassugol' Association achieved good results in the competition, increasing production by 3.2 percent compared to the same period last year. The best results here were obtained by the brigade of Hero of Socialist Labor M. Reshetnikov from the Zyryanovskaya Mine. It has more than 100,000 tons of coal on its above-plan account. Solid increments were provided by the progressive brigades of K. Markelov from the Gukovugol' Association and V. Ignat'yev from Krasnoarmeyskugol'. The dissemination of their experience would make it possible for association collectives to increase coal extraction. The situation is different at the Karagandaugol' Association. Here it has been impossible to raise lagging units to the levels attained by the progressive section led by N. Gladkiy. As a result, extraction has declined. Some production associations have fulfilled the plans, while some have not. Twenty-two of 54 associations in USSR Minugleprom did not meet the targets for the 9 months. Shortfalls at Ukrzapadugol' ammounted to 757,000 tons, at Bashkirugol' -- 475,000, at Leninskugol' -- 517,000 and at Selidovugol' -- 504,000 tons. There were increases in the total share of coal extracted by surface methods. The Vostsibugol' and Severovostokugol' Associations made significant contributions to this. They are working according to counter-plans this year. The nine month results indicate that the nation's miners still need to exert considerable efforts to guarantee the necessary extraction rates. This requires the broader dissemination of the 1000 ton brigade movement and the better use of equipment, especially mechanized complexes. [Text] [Moscow EKONOMICHESKAYA GAZETA in Russian No 42, Oct 83 p 4] 11574

ROSTOV OBKOM RESPONDS--"The Sector's Engineering Efforts" was the headline of an article in SOTSIALISTICHESKAYA INDUSTRIYA on 12 May in which B. Bratchenko, USSR Minister of the Coal Industry noted that a number of mines in Rostov Oblast are fairing poorly in the introduction of technological chartograms and cards for work organization. N. Kravchenko, secretary of the Rostov Obkom, who sent the official answer to this article, reported that a number of measures have been implemented to eliminate these shortcomings and to improve the economic effect

from the use of chartograms. Party committees and primary party organizations at coal industry enterprises have intensified control over the introduction of progressive forms of organizing miners' work. All longwalls in the oblast's mines now have chartograms, considered as obligatory documents for newly introduced working faces. This work has been considerably assisted by the rhythmic labor of coal miners. Since the year's beginning Don miners have extracted 700,000 tons of coal above the plan. [Text] [Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 23 Oct 83 p 2] 11574

KARAGANDA MINERS--Shakhtinsk--The collective at the Tentekskaya Mine, the newest in the Karagandaugol' Association, won a labor victory in the pre-October watch. Extracting the 150,000th ton of above-plan coal since the beginning of the year, the miners were the first in the basin to fulfill their socialist obligations in honor of the holiday. The success was assisted by cooperation between those participating in coal extraction. The Tentekskaya -- it means "obstinate" -- has the most difficult mining geological conditions in the basin. Even a small snag in one shift leads to the lagging of others linked in the technological chain. In such a situation much depends upon the smooth operation of the various shifts. Miners, repair workers, underground haulage operators here worked on one face. However, each unit had its program. This often led to forced stops, which disturbed the collective's overall work rhythm. It was possible to combine efforts through the conversion of crews to a single detail, which oriented all miners towards final results -- above-plan coal extraction. This approach has permitted the enterprise to dispatch more than 5,000 tons of coal daily. By the end of the year the miners plan to extract an additional 50,000 tons of above-plan coal. [Text] [Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 25 Oct 83 p 1] 11574

KARA-SU MINE-- Osh Oblast-- The communist collective at the Kara-Su Strip Mine supports its high title with deeds. Back in June it reported the early fulfillment of the plan for three years of the five-year plan. Now the miners have a new achievement -- they completed the annual target three months early. There is skilled use of equipment and work organization at the tunnelers brigade led by A. Boobekov, winner of the Order of Lenin and shock worker of communist labor. The brigade is always outpacing the schedule. The leaders in socialist competition for the jubilee movement of communist movement include: excavator operator R. Valilulin, dump truck drivers V. Semchenko and K. Domikidi and tool fitter V. Zamyatin. A great contribution to the common success was made by workers at the new strip mine recently opened at the Kara-Tut deposit. The miners have decided to extract an additional 90,000 tons of coal prior to the year's end. [By D. Keleshbayev] [Text] [Frunze SOVETSKAYA KIRGIZIYA in Russian 13 Oct 83 p 1] 11574

VOROSHILOVGRAD SUCCESSES--Krasnodon--A new labor victory has been won by the brigade of working face workers at the Molodgvardeyskaya Mine, led by A. Kolesnikov, a Hero of Socialist Labor and member of the CPSU Central Committee. One of the better collectives in the Krasnodonugol' Production Association, it produced 100,000 tons of above plan coal since the first of the year. The brigade is leading competition for honorable celebrating the 66th Anniversary of October. While the weekly extraction plan is 1,830 tons, it is attaining 2,100 tons. Labor productivity is constantly growing here. Each underground worker produces an average of 483 tons per month, 60 more than the target. [By V. Mikhaylichenko] [Text] [Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 28 Oct 83 p 1] 11574

OVERFULFILLMENT AT VORKUTA--Miners at the Vorkutaugol' Association have, since the year's beginning, overfulfilled the coal extraction plan by 300,000 tons. This was considerably more than intended by the annual socialist obligations. The successes were attained through competition between section collectives at the mines. Eight coal extraction enterprises have already met their obligations. Collectives at the Oktyabr'skaya, Vorgashorskaya and Tsentral'naya Mines are leading the competition to fulfill the annual plan ahead of schedule. Since the first of October their above plan accounts have reached more than 30,000 tons of coal. [By V. Krukovskiy] [Text] [Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 19 Oct 83 p 1] Yet another coal extraction collective is entering the progressive ranks at the Vorkutaugol Association. This is the Tsentral'naya Mine's extraction brigade led by V. Burkov. It recently mined its 500,000th ton of coal since the first of the year. This is the first time it has reached this figure. [By V. Krukovskiy] [Text] [Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 26 Oct 83 p 1] 11574

MORE SUCCESS AT VORKUTA--Vorkuta--One more coal mining collective has been added in Vorkutaugol' Association. This is the 'Tsental'naya' extraction team, headed by V. Burkov Recently, the miners extracted their 500,000th ton of coal. This was their first-time achievement. [By V. Krukovskiy] [Text] [Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 26 Oct 83 p 1] 9642

ABOVE PLAN AT SHAKHTERSK--Miners at the Vinnitskaya Mine, Shakhterskangratsit Production Association. More than 130,000 tons of high quality fuel in excess of the program have been sent to customers. There are no lagging sections or brigades at the enterprise; practically all collectives have fulfilled their annual socialist obligations. Labor productivity exceeds the plan by 25.4 percent and the prime cost per ton of fuel has declined by almost 3 rubles. Work is well organized at the mine. The highly productive work of extraction brigades is ensured by tunnel driving collectives, which this year drove almost 2,000 linear meters of opening and preparatory workings in addition to the plan. The pace here is set by N. Matveyev's brigade, which in 40 calendar days drove more than 1 kilometer of main haulageways. [By G. Doroveyev] [Text] [Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 18 Oct 83 p 1] 11574

NEW MINING EQUIPMENT--Zhdanov--TASS--The "Zhdanovtyazhmash" association is increasing its production of large unit capacity mining extraction equipment. Fabrication of a rotary complex for miners in Siberia has been completed there. The complex is able to dig from the open face and load onto trucks up to five million tons of fuel a year. In contrast to its predecessors, which are already in operation at open-cast deposits in Kazakhstan and Siberia, it is more reliable in operation. Its self-propelled section and load-lifting assemblies have been strengthened and the durability of the scoops on the rotary complex has been increased; their teeth have been coated with specially hard materials. In order to provide for repairs on this gigantic machine, cranes, winches and other mechanisms have been mounted that make it possible to disassemble and assemble the tons of equipment under field conditions. The working place for the crew has also been made more comfortable. [Text] [Moscow IZVESTIYA in Russian 1 Nov 83 p 1] 9642

KOPEYSK MINERS OVERFULFILL PLAN--Kopeysk--Since the beginning of the year the collective of the "Kapital'naya" mine at Kopeysk has recovered 1,260,000 tons of coal, including 200,000 tons above the plan. This has enabled the miners to be the first in the "Chelyabinskugol'" association to complete ahead of schedule the plan for the third year of the five-year plan. This success became possible thanks.to the system of collective preceptorship set up at the mine. For several years the first extraction section led by V. Mit'kin has carried the high title of collective-preceptor. Having concluded an agreement on creative cooperation, it first helped a second extraction section to overcome its lagging and is now exercising patronage over a third. As a result the entire mine is now working without lagging. And the highest indicators in socialist competition have now been achieved by the miners of a fourth extraction section led by N. Davydov. Here, average daily recovery has reached 1,280 tons of coal. Before year's end the "Kapital'naya" miners will send consumers dozens of trainloads of above-plan fuel. [By V. Zenkovskiy] [Text] [Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 23 Nov 83 p 1] 9642

KARAGANDA MINERS COMPLETE PLAN--Karaganda--A new-year fir tree has appeared almost 2 months early in the smart second section of the "Kirovskaya" mine, a sign that the miners have already passed the year's target for coal extraction. Skillfully organizing their labor and making highly productive use of equipment under complex mining and geological conditions, the miners have brought up 323,000 tons since the beginning of the year. Nikolay Bakatelin, Bogdan Petriv, Nikolay Ryaskov and Gaysa Kadyrov have made a major contribution to this labor victory. At a general meeting of the miners in the section section the title of "Best Collective at the Mine" was conferred. Thanks to the persistent work of the leading collectives the mine has successfully coped with the 10-month program. Some 1,712,000 tons of coal have been dispatched to consumers from the clearing lines at the enterprise, including about 40,000 tons above the plan. [By V. Sergeyev] [Text] [Alma-Ata KAZAKHSTANSKAYA PRAVDA in Russian 17 Nov 83 p 2] 9642

UKRAINIAN COAL MINISTER STATEMENT--During the first half of the year errors were permitted in the construction of the "Medvezheyarskaya" mine in the "Aleksandriyaugol'" production association and the schedules for work production were not maintained. As a result the timely commissioning of the enterprise was under threat of disruption. This was pointed out to the ministry in a serious way in the article entitled "All Sites Nearing Completion Should Be Commissioned!" Since August the number of workers on the mine construction has been increased and special attention has been paid to the tunneling and assembly brigades. Thanks to this it has been possible not only to liquidate lagging but even to carry out individual sections of the work ahead of schedule. Total fulfillment of construction volumes at this project nearing completion is almost 107 percent of the plan. An extra 663 meters of tunnel for the mine workings have been completed. We are fully confident that the mine, which has an annual capacity of 1.2 million tons will be commissioned right on target, in December. [By Ye.A. Lopukhin, Ukrainian SSR deputy minister of the coal industry] [Text] [Kiev RABOCHAYA GAZETA in Russian 21 Oct 83 p 2] 9642

'EKIBASTUZUGOL'' ACHIEVEMENTS EXHIBITED--An exhibit on display in the "Coal Industry" pavilion at the USSR Exhibition of National Economic Achievements tells about the experience of the Ekibastuz miners in producing very cheap coal. Miners at the "Ekibastuzugol'" association were the first in the country to master working of the seams with powerful rotary excavators. In 7 minutes 1,000 tons of rock and coal can be moved with this kind of complex. The miners' high labor mechanization and the efficient use of this powerful equipment make it possible to bring up very cheap coal. Prime cost per ton is hardly more than a ruble, which is several times cheaper than the all-union indicator. One of the displays is given over to the brigade of USSR State Prize laureate A. Shishlov. This collective has already twice set all-union records for annual coal extraction, passing the 8-million-ton target. By the end of the five-year plan the brigade plans to bring recovery up to 9 million tons. An exhibit titled "Coal Recovery Using the Open-Cast Method" shows the scheme for the automated control systems for the "Bogatyr'" and "Stepnoy" open-cast mines. Thanks to its introduction the most economical and efficient methods of coal production have been worked out. [Excerpt] [Alma-Ata KAZAKHSTANSKAYA PRAVDA in Russian 17 Nov 83 p 2] 9642

DNEPROPETROVSK MINERS COMPLETE PLAN--Pavlograd, Dnepropterovsk Oblast, 17 November--Today the new-year fir tree was lit up at the mine imeni Leninskogo Komsomola Ukrainy in the "Pavlogradugol'" association. Having brought up it 160,000th ton of above-plan coal since the beginning of the year, the leading collective has completed its annual coal-extraction program ahead of schedule. One of the newest mines in the Dnepropetrovsk area (it has been operational only since the start of the five-year plan) is confidently gaining strength. Working small seams barely thicker than half a meter, the miners have achieved a daily work load of more than 700 tons of coal for the excavating complexes, which exceeds the normativ target by a factor of 1.5. In 1 year this has enabled the miners to reduce assimilation of the enterprise capacity, calculated for an annual extraction of 1.5 million tons of fuel. The collectives at the neighboring mines, namely the mine imeni Geroy Sovetskogo Soyuza N.I. Stashkov and the mine imeni XXVI S'yezd KPSS, have also started to work on next year's calendar schedule. [By RATAU correspondent N. Sal'kov] [Text] [Kiev PRAVDA UKRAINY in Russian 18 Nov 83 p 1] 9642

DONETSK MINE REPORTS SUCCESSES--Snezhnoye, Donetsk Oblast--Miners at the "Miusskaya" mine have been the first among the miners of Snezhnoye city to report fulfillment of the plan for the first 3 years of the five-year plan. During this time they have brought up 135,000 tons of above-plan anthracite, more than half of it this year. All technical-economic indicators have been improved: labor productivity up 15 percent, the tunneling plan for the mine workings exceeded by hundreds of meters, and a saving of R700,000 from reductions in prime costs. The collectives in the sections led by M. Mazur and B. Andriyevich have displayed fine examples of labor. Their daily indicator is 110 to 115 percent. [By V. Vlasenko] [Text] [Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 13 Nov 83 p 1] 9642

CSO: 1822/100

MORE MECHANIZATION TO INCREASE EFFICIENCY AT POWER PLANTS

Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 17 Nov 83 p 2

/Article by Academician N. Dollezhal, Hero of Socialist Labor and Lenin and State prize winner: "An Economical Power Industry"/

/Text/ The successful development of the economy and the solution of many social problems depend directly upon the growth rates of the energy potential of the USSR. In the past year Soviet electric power plants generated more than 1,360 billion kilowatt-hours of electricity - more than Great Britain, Italy, France and West Germany combined. But we can already see that in the very near future this level will appear to us to be more than modest.

The policy being followed by the Party calls for the intensification of social production; this requires a reliable power production base. Without electricity extensive automation and mechanization of labor-intensive processes and eliminating heavy manual operations are unthinkable. To implement the Food Program it is in particular necessary to sharply increase the extent to which agriculture is provided with electricity. Raising the living standard of the Soviet people is connected with the steady growth in energy consumption in the home.

To satisfy the growing demands of the national economy we have established the Energy Program of the USSR, the draft of which was approved by the Politburo of the CPSU Central Committee. This program calls for the further growth in capacities and for raising the efficiency of the power industry using the accomplishments of science, technology and advanced experience. Toward this end at the power plants now under construction they are installing power units with an increased rated capacity on a more extensive basis and they are continuously improving the characteristics of the equipment. They are also using industrial methods for construction and installation work. But the acuteness of the energy problems is such that it is forcing us to approach matters having to do with economy in essentially new ways.

A significant improvement in labor productivity is a crucial task for the power industry as well. The growing difficulties in extracting and transporting fuel signify that to increase the production of electric power we must with each passing day increase the number of people involved in the process. From this point of view raising the efficiency of fuel use equates to conserving labor and, consequently, to improving labor productivity.

In the power industry the efficiency of power units serves as an indicator of the efficiency of fuel use. At existing power plants and nuclear power plants this indicator is on average 30 to 40 percent. In other words, in the best case only two fifths of the heat allocated by fuel is converted into electricity. The remaining is carried off by the water that cools the condensors of the steam turbines.

This has led to the task: to improve the efficiency index of power units to 50-55 percent. This would make it possible with the same outlays of fuel to generate some 1.5-fold more electricity. Or each year to conserve up to 70 million tons of standard fuel for each 100 million kilowatts of installed capacities at thermal electric power plants. At the same time there would almost be a halving of the need for water to cool the steam turbines' condensors. There would also be a significant drop in the impact of heat wastes upon the environment.

However, serious difficulties block the path for this to happen. The physical essence of obtaining electricity at both thermal and nuclear power plants is such that to increase the efficiency index it is necessary to increase the temperature of the working body. Today as a working body we use water, the job of which is to "feed" the energy of the spent fuel and transfer it to the blades of the turbines. But in this role water has nearly reached its limit. In particular, at temperatures in the range of 600 degrees water molecules begin to break down into hydrogen and oxygen, the chemical activity of which is so great that the sturdiest of materials cannot withstand them. At the same time there is a worsening of the properties of water as a heat carrier.

In principle the solution of the problem is known: gases should be used as the heat carrier. Gases which can be heated to almost any temperature encountered when burning fuel. However, in the example of the aviation industry it is well known that the gas turbine is an expensive piece of equipment. On the scale of the Soviet Union's power industry it would take a lot of capital investments to use gas turbines extensively. One can also foresee difficulties which will arise in developing gas turbines with a similar rated capacity; and most importantly, with the resource which are needed by the power industry. For this reason along with the "purely" gas layouts we and foreign nations have extensively developed combined steam and gas turbines.

In their general features the layout for such systems are similar. The heat that is formed in the reactor or during the combustion of fuel is first used to obtain high-temperature flow of gas, which puts the gas turbine into motion. Then the gases enter the heat exchanger, where it releases the remaining heat to the water, the vapors of which proceed to a second, ordinary steam turbine. One can view this variation of the solution as being similar to the experimental electric power plants that are being developed on the basis of the MHD generator and the steam-water circuit.

Depending upon the complexity of the layout that is used the steam-gas units are making it possible to improve the efficiency index by 5 to 8 percent. For example, in West Germany they have developed a combined thermal electric power plant, where the efficiency index has reached 48 percent. But to increase it even up to 50 percent, the temperature and pressure of the gas in the turbine must be raised to 1,000 to 2,000 degrees and 50 to 120 atmospheres, respectively. This means that it is necessary to use scarce high-alloy structural materials.

One can say that it is in the area of temperatures on the order of 1,000 degrees that one encounters the group of contradictions between the desire to increase the heating of the working body and durability and the cost of the materials that are used. It is necessary to reduce the temperature by at least 50 degrees and the duration of the reliable operation of these materials increases several-fold. And, on the contrary, each increase in working temperatures by 50 degrees leades to a sharp rise in the requirements upon the quality of the materials and, consequently, their cost.

Quite recently it seemed that the power industry had run into an unsolvable contradiction. But research over the past several years has made it possible to determine that the problem can be solved if in the first circuit of the combined units one uses vapors of such an alkaline metal as potassium instead of gases. Estimates demonstrate that electric power plants using a potassium-water cycle can have an efficiency index of up to 52-55 percent when buming the potassium vapors at temperatures of up to 760-850 degrees. In other words, at operating temperatures considerably below those required with other heat carriers.

Other advantages also attest to the utility of this solution. In particular, the high heat conductivity of potassium in combination with the low pressure of its vapors make it possible to reduce the relative use of metals by almost ten times for steam generators and condensors. To manufacture heat exchanger equipment for a potassium-water circuit and potassium turbines they can use such industrially available materials as austenite stainless steels and alloys using nickel. It is true that to prevent their corrosion, the presence of oxygen in the potassium can not exceed five thousandths of a percent. But we already know how to obtain

such purity. And to realize this directly at the power plants will not lead to complications.

Of course, just as with other alkaline metals, potassium can display an increased chemical activity when coming in contact with water. But the dangers encountered in this area are clearly exaggerated. Quite a bit of experience has already been accumulated in the operation of fast-neutron reactors, where the water and steam mixture are heated by sodium, a close relative to potassium. There is no doubt but that for the potassium-water power plants the necessary structural solutions will be found.

Research demonstrates that the use of the potassium-water circuit will lead to the development of power units having a rated capacity of up to a million kilowatts. Electric power plants with this rated capacity promise that the cost of an installed kilowatt can be close to that of today's common thermal electric power plant. The need for more expensive materials in this regard will be compensated for by the fewer outlays for using metals in the equipment. As a result each one million kilowatt unit with an efficiency index of up to 55 percent will provide an economic savings on the order of 30 million rubles per year.

We cannot forget about the problem which makes the use of potassium particularly tempting. Time is very hard on equipment. In the Soviet Union there are many outdated power plants which due to their poor economy have to be shut down. This has led to the idea of replacing the ordinary steam generators with a potassium circuit with a turbine. Estimates show that the characteristics of the combined units that are obtained in this manner will make it possible to spare some of the power plants.

The accumulated scientific undertaking and preliminary structural development work make it possible to pose the question regarding the carrying out of an industrial experiment in this field. In particular, it would be wise to develop an experimental potassium-water unit using a thermal electric power plant with turbines having a rated capacity of 200,000 to 300,000 kilowatts. This is precisely the idea that we presented to the USSR Ministry of Power and Electrification. But for now the ministry's workers have shown little interest in this proposal.

We believe that further work in this direction, which might lead to increasing the economy of the power industry, must be overseen by a head institute of the branch of industry such as Atomteploelektroproyekt /Institute of the Nuclear and Thermal Electric Power Industry for Design Work/. The institute's partner in this undertaking could be the Central Boiler and Turbine Institute imeni I. I. Polzunov, which would represent the power machine building industry. And finally, such institutions of higher learning as the

MVTU /Moscow Order of Lenin and Order of Labor Red Banner Higher Technical Institution imeni N.E. Bauman/, the Leningrad Polytechnical Institute, MAI /Moscow Order of Lenin Aviation Institute/. MIFI /Moscow Order of Labor Red Banner Engineering and Physics Institute/, and MEI /Moscow Order of Lenin Power Industry Institute/, which possess the scientific acumen in this field, should be included in the work to solve these problems. And all work should be incorporated in one of the all-union scientific-technical programs. The USSR State Committee for Science and Technology should be responsible for monitoring the progress of the work. Briefly, the way to an economical power industry lies in the clear organization and coordination of the efforts of scientists, specialists and workers from industry.

8927
CSO: 1822/124

MORE AUTOMATION, METROLOGISTS NEEDED FOR POWER PLANTS

Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 10 Nov 83 p 2

/Article by N. Geshtarova, engineer: "Precision Is Approaching"/

/Text/ No matter what you call the twentieth century - the atomic, high-speed or space century, one thing is clear: we live in the age of precision. Today's power industry is an expansive and multifaceted organization. It is impossible to conceive of this industry without its automated control systems. The operator at any power plant today is primarily a person who quickly reacts to the enormous flow of information coming in from all sorts of instruments. The reliability of his work depends largely upon the precision of the readings from the measuring instruments. A small memorandum: during the production of electricity, increasing accuracy in measurements of the expenditure of oil, gas and coal by one or two percent saves as much as a half billion rubles, or the equivalent of 20 million tons of standard fuel each year.

How are we to provide the maximum degree of precision in measurements in the power industry? The solution was found about 15 years ago when in the USSR they started to introduce the IIS - information-measuring systems.

Their efficiency was estimated while on the designers' drawing boards. For example, the efficiency must reach 250,000 rubles per year just at thermal electric power stations.

At present in the power industry more than 150 IIS's have been put into operation. This was to result in significant economic savings. Why do we say should have? Because as of today, according to preliminary data from the USSR State Committee for Standards, 20 percent of the IIS systems are actually not operating. This means that one in five electric power stations is continuing to operate in the old manner. There is a simple explanation for this: the IIS systems are not trusted.

By the way it comes as no surprise that they do not trust the smart systems. When they are put into operation they must be subjected to metrological certification and be checked for accuracy. But often this is overlooked. Why is it that no one has complained about this? And what do they think about this at the USSR State Committee for Standards?

The deputy chief of the Administration of the Metrological Service of the USSR State Committee for Standards, V. Vinnik, reports, "The metrological service is not a simple matter. It is one thing to certify a single instrument and quite another matter to certify an entire system. You cannot bring a system into the laboratory to be checked. This requires completely different methods and the approach to the task is essentially new. The certification must be done on site, without shutting down the production process. This is complicated. For this reason, when the series production of the IIS systems started, the USSR State Committee for Standards established the All-Union Scientific Research Institute of Metrology and Information-Control Systems in Lvov; which was formed in 1979 within the Scientific Production Association Sistema. It was immediately given the task of studying problems having to do with the certification of all types of monitoring and measuring systems and complexes that we were putting into operation. Several standard-technical and methodological documents, on the basis of which two GOST's were published, were developed and released. But the institute only checked the first, experimental models, which they also tested. The institute was unable to certify all of the series produced systems.

"Without diminishing the complexity of the problem, we still would like to pose the question in this manner: why is metrological control not taken into consideration at the design stage. After all it should be perfectly clear for the designers that when there are flagrant deviations from the assigned precision a measuring system simply cannot operate, particularly in the power industry? Would it not have made sense to take this into consideration when estimating the economic savings? And, perhaps, at the same time it would have been wise to develop equipment for the certification process?"

Well, okay, the designers have dropped the ball. But this leads to another question: how logical is it to introduce systems if no thought is given to how well they will function? And what is the operator to do when he is left alone with equipment that has not been carefully checked?

To address the gaps in the certification process, the USSR State Committee for Standards has decided to call upon its territorial organs, the standardization and metrology centers, to help out in this important matter. In the beginning the centers were up in arms about this "work load". They did not want to take on the responsibility for even the experimental certification. They complained that this was a difficult and bothersome business. If we accept the task, they said, we will never get rid of it. However, there were a few brave souls in the city of Kharkov. During 1982 the Kharkov people undertook the job of certifying the the measuring systems at the Zmiyevskaya and other GRES's and also at several other combines in Kharkov, Sumy and Poltava oblasts. Due to the lack of metrological support the systems at these enterprises, as a rule, were in an inoperative condition.

For example, at the Zmiyevskaya GRES during the certification process only 224 instruments out of 1,492 guages were operating. This led to serious violations of the technological processes during the operation of the boilers and turbines. It was also responsible for significant losses of fuel. The overexpenditure of fuel for the year amounted to 155,000 tons. One should keep in mind that the cost of a single system is from 1.7 to 15 million rubles. Just imagine the scale of losses for the entire Soviet Union!

Can you consider the certification performed by the Kharkov people successful? The answer is yes. Primarily because they proved the reality of the participation of the territorial organs in solving this problem. It is true that the Kharkov people encountered serious difficulties: a shortage of skilled specialists and the necessary equipment. They also suffered a lack of money. These problems must be solved before handing over this work to the territorial organs.

According to reports at the USSR State Committee for Standards, special two-month courses have been organized in Lvov to train specialists in the metrological certification field. Lvov will also prepare standard lists of the equipment needed for the certification work. This equipment will then be made available to the centers. To a significant extent this will help to solve the financial problem.

While giving due credit to the efforts of the USSR State Committee for Standards, we must not forget about the comprehensive approach to this problem. Work on the metrological support of the IIS systems must be coordinated at all three stages: development, production and operation.

The sectoral ministries must come up with a procedure for the technological support to the systems. The problem is that according to the rules metrological certification is required two or three times per year. Between the checks the measuring systems must be monitored by the operators themselves. This means that someone on site must be responsible for the operating condition and precision of the instruments. In several ministries, it is true, there are several adjustment services, which keep an eye on their operation. But coordination is required for their activity, as is a clear definition of the responsibilities and, of course, assistance.

The information-measuring systems can and must provide a well-planned economic savings. The task at hand is to ensure the responsible approach to these systems on the part of all involved organizations.

8927
CSO: 1822/124

PIPELINE CONSTRUCTION

PIPELAYER WITH VARIABLE TRACK SPAN TO BE PRODUCED

Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 5 Oct 83 p 1

[Article by S. Malikov (Moscow): "There Are No Counterparts"]

[Text] ...A little bit more and the pipelayer tipped. The wire rope had been stretched to the limit, but the 60-ton pipe did not move. And now the unexpected is happening: the machine's long tracklayer and the whole base of the superstructure begin to creep to the side opposite the boom. The listing was eliminated. The machine stands firmly on the ground. The winch is switched on and the pipe slowly crawls upward and leans, gently rocking, on the extended boom.

"This unit has no counterpart, either in our country or abroad," say the engineers of the Gazstroymashina Special Design Bureau about the MM-631 model erecting machine.

The designers can now permit themselves such an optimistic assessment, when the experimental model has already proved itself well during tests, and the economic benefit from its use is estimated at 107,000 rubles per year per machine.

Two years ago staff workers of the SKB's [special design bureau's] Load-Lifting Machinery Section were given the job of producing the largest of load-lifting pipelayers with the least of metals intensiveness. And it was not just a matter of savings. When increasing the load-lifting capability, it was necessary to remember stability constantly. And this depends directly upon the weight of the unit: the heavier the unit, the higher the requirement. But with increase in weight, the track's pressure on the soil increases, reducing trafficability and, consequently, restricting the vehicle's utility. That means that a pipelayer that is simultaneously light in weight and stable had to be designed.

What about a tracklaying undercarriage with a fixed wide-track span, thought the specialists? For the wider the tracks' placement, the more firmly the machine stands on the ground. However, as was explained, in this case its dimensions would be too wide for the railroad flatcars, which would haul it with difficulty....Try a model with adjustable track-span gauge? This idea had, on the whole, been born in the section long ago. An experimental model of such

a tracklayer had even been selected. But it did not go into series production--the base tractor did not prove to be powerful enough.

Now such a tractor has appeared--the serially produced TT-330. It was decided to replace the ordinary tracklaying undercarriage on it with the new one, the variant designed by the SKB.

"It enables the operator himself to adjust the distance between the tracks, depending upon the working conditions," explained one of the MM-631's creators, chief designer A. Lipovich.

The moment of stability of the new pipelayer is double that of the old TG-502, which is still considered the most powerful among domestic and foreign models. In order to hold a 63-ton structure on the boom without risk of overturning, the old pipelayer's weight should be at least 125 tons. But the MM-631 weighs only 83 tons. Therefore the new unit is capable not only of raising but also of holding pipeline components with a long boom reach during erecting operations. Thanks to these qualities, it will be possible to get by with one new machine where nowadays two pipelayers are operating. The number of machines for laying large-diameter gas pipelines will be reduced from six to four in insulating and laying columns.

The MM-631 actually has no counterparts in the world. Testifying to this is the fact that such countries as the USA, Japan and Canada, which have great experience in creating special load-lifting equipment for building gas pipelines, have bought patents for use of the adjustable gage in their designs.

11409
CSO: 1822/102

UNDERWATER PIPELINE ERECTING ASSOCIATION PROUD OF ITS FEATS

Moscow VODNYY TRANSPORT in Russian 29 Nov 83 p 2

[Interview with Viktor Nikolayevich Gerasimov, chief of Soyuzpodvodtruboprovodstroy, by A. Avdeyev: "'We Are Proud of the Title of Underwater Workers'"]

> [Text] Nature has not skimped on difficulties for those who are building fuel trunk lines from polar Urengoy to the country's central regions. In the pipeline workers' path are the muddy ground of Tyumen's swamps, steep mountain slopes and rivers. Builders of Soyuzpodvodtruboprovodstroy [All-Union Association for Underwater Pipeline Construction] have made the crossings over them. Its workers have been encountered on the Ob, Volga and Kama....And each time the precision of the specialists' actions was startling. Erectors, welders, equipment operators and divers worked as if on a factory assembly line, a high class of skills was confirmed everywhere, and, as a result, all the water crossings and lines were turned over ahead of time and with good quality.
>
> What was the basis of the association's successes? We began our conversation with Soyuzpodvodtruboprovodstroy chief with this question.

[Answer] This answer can be given to that question: high skill and conscientiousness of the specialists and good supplying of equipment and materials enabled us to outpace the schedules for building all the trunk gas pipelines of the five-year plan.

Former EPRON [Special-Purpose Underwater Operations Expedition] workers, whose highest skills were never in doubt, became the shock force of the Specialized Administration for Underwater Engineering Operations; it was organized in 1956. The Special-Purpose Underwater Operations Expedition, which was organized on order of V. I. Lenin, carried out for many years most complex tasks on raising sunken ships, repairing underwater service and communications lines, and building crossings for fuel trunk pipelines.

Many of these specialists also came to the new administration, which later became a trust, and subsequently an All-Union association of Minneftegazstroy

[Ministry of Construction of Petroleum and Gas Industry Enterprises]. Their experience and knowledge were not being used, and they became the base of the collective. Many of them even today are full of energy and are working successfully in the association. Among them are my deputy V. Mal'tsev, chief engineer of one of our administrations V. Pilipenko, diving specialist S. Malikov and USSR State Prize winner senior engineer L. Val'kovskiy.

[Question] Viktor Nikolayevich, today's tasks for the association's divers appear to be less romantic. The strict technology of the work on the crossings precludes risk and leaves on it a certain stamp of the commonplace.

[Answer] You are right to some extent. Increase in the work pace depends to a great degree upon the exclusion of chance, but this does not mean that professionalism no longer is valuable. Let us take an example, the Kama. On the river's shore, close to Sarapul, we built a convenient settlement for temporary duty workers. We were to occupy it for a long time: during the five-year plan period, six kilometer-long strands of pipelines were to be thrown across the Kama. For digging the ditches along the bottom we had at our disposal such high-capacity suction dredges as the "Yamal" and the "Samotlor"--their productivity reaches thousands of cubic meters of soil per hour. On the Kama we needed the "Podvodnik-1" suction dredge, which can work on rocky soil. Its commander, S. Baryshev, and his crew had taken part in the erection of crossings over many rivers. And this time the task was being performed ahead of schedule. Meanwhile, on the shore, I. Usenko's brigade welded pipe into 200-meter sections, insulated them and bound them with wood strips, to protect the insulation from being damaged by the hold-down weights.

In brief, everything went as usual. Diver first class V. Serbin and his assistant removed submerged logs--they are not a rarity in the Kama--when the ditch was being dug. Then the wire rope was cranked....The signaler's command was given to the winch--and the sag bend went under the water. It would seem that there is nothing complicated. But it only seems that way. The Kama crossing for the Uzhgorod arterial was completed half a year ahead of schedule. Such a gain in time was the result of many years of experience of the specialists, during which the most varied situations were encountered.

[Question] Viktor Nikolayevich, about how many crossings over water obstacles have your specialists made?

[Answer] From the time the administration was organized until the start of the current five-year plan, when we were named an All-Union association, 2,994 crossings were made, and 2,316 kilometers of pipeline were laid down on the beds of rivers, lakes and reservoirs.

[Question] And where are the operations being performed now?

[Answer] At the 26th CPSU Congress the gas arterials that start at Urengoy were named the most important construction projects of the five-year plan. I can begin the list from there: the Yeloyakha, Nadym, Kazym, Ob, Irtysh, Tavda, Chusovaya, Syla, Kama, Volga, Vyatka, Sura, Moskva, Tsna, Don, Dnepr, Berezina....A full list, perhaps, would take up much time, the map of the construction projects is too vast. I will add that the ministry's line subunits

are also taking part in the assault on water obstacles. That is why, for example, the association's share of the 220 kilometers of the underwater part of the Urengoy-Pomary-Uzhgorod trunk line is only 40 kilometers. "Agency jurisdiction" over the rivers is determined as follows: if it is 30 meters wide and 1½ meters deep, that means it is ours, it requires high-capacity equipment and special qualifications. Let's say on the Volga's bottom we have to dig a ditch to a depth of 15 meters. This task is highly complicated. I will note that during underwater operations, even in rocky soil, we do not use explosives, we are saving the rivers' riches.

[Question] Viktor Nikolayevich, what kind of relationships do you have with river workers?

[Answer] The construction of crossings does not create difficulties for them, we do not hinder navigation, and our ties with Minrechflot [Ministry of the River Fleet] workers and with the shipping lines are longstanding. We know what help the river workers have extended to the builders of the gas arterials, in carrying out the task of hauling cargo for the fuel lines. However, our contacts, perhaps, are still closer.

I do not recall a case where the river workers refused to grant us the necessary ships and suction dredges. Situations do occur where it is more rational to turn to our colleagues for help than to ferry one's own equipment from a distance. Incidentally, the amount of operating equipment supplied the association grows from year to year. For example, a plant will appear soon at Petrokrepost, near Leningrad, at the site of the SUPTR-6 [Specialized Underwater Engineering Operations Administration No 6] repair base. Water jets, suction dredges, barges, pontoons and other equipment are already being produced there.

[Question] What are the association's plans for the future? If possible, compare them with the operations already performed. And also tell how the labor of the underwater workers is evaluated.

[Answer] While during the five preceding five-year plans our collective laid about 3,000 crossings, during this one we are to throw 980 sag bends across rivers, or to build about 600 kilometers of pipeline under the water. By now more than 500 sag bends have been laid. Work on all the Urengoy arterials is being performed well ahead of schedule. It is certain that we shall manage to build a year ahead of schedule the routes that begin in North Siberia. In so doing, this important circumstance should be considered: while previously the laying of sag bends 1,220 mm in diameter seemed to be a miracle to engineering thought, at most rivers we are now using the pipe size that is basic for the whole trunk line--1,420 mm.

The party and the government rate our specialists' work highly. The title Hero of Socialist Labor was awarded to Anatoliy Filippovich Simvolokov, foreman of the divers' station, for outstanding success during construction of the Urengoy Pomary-Uzhgorod gas pipeline. He has spent more than 7,500 hours under water, laying fuel pipelines. Think of it: it is almost a year. But this is not the essence of it. Divers such as he deal excellently with

all the intricacies of the technology for laying crossings. They are able to rally people, to inculcate a love for the job in youth.

Another bit of joyful news came recently. For outstanding achievements in labor and a great personal contribution to building up the pace of recovering oil and gas, Anatoliy Ivanovich Shcherbakov, leader of an integrated brigade of SUPTR-5 of Vostokpodvodtruboprovodstroy [Trust for Underwater Pipeline Construction in the Eastern Economic Region], became a winner of the USSR State Prize.

11409
CSO: 1822/102

BRIEFS

KHARTSYZSK PIPE PLANT--Donetsk Oblast--A train loaded with finished output was sent out from the spur tracks of the Khartsyzsk Pipe Plant. On one of the pipes was written, "To Siberia's workers--our millionth ton!" Khartsyzsk's pipemakers sent the cold-resistant large-diameter pipe to Tyumen Oblast almost a month ahead of schedule. The plant's collective is waging a persistent drive to increase output and to save metal. At the specialists' suggestion, a new technology for making welds and for duplex welding of two large-diameter pipes at once, which enables a reduction in metal consumption and speedier pipe production, was introduced. [G. Dorofeyev] [Text] [Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 14 Oct 83 p 1] 11409

CZECHOSLOVAK-BUILT REPAIR PLANT--Uzhgorod--The first masonry has been laid for the foundation of the central repair base of the Urengoy-Pomary-Uzhgorod trunk gas pipeline. The repair and modernization of compressor-station equipment will be inaugurated at the new enterprise, which Czechoslovak construction workers are erecting. [I. Germakovskiy] [Text] [Moscow SEL'SKAYA ZHIZN' in Russian 15 Dec 83 p 1] 11409

KARSHI STEPPE GAS PIPED--Akhangaran (Tashkent Oblast)--Gas from the Karshi Steppe's underground storehouses has come to Akhangaran. The first sections of the Syrdar'inskaya GRES-to-Tashkent gas arterial have begun to operate. It is planned to complete construction of this 204-kilometer trunk line by the end of the year. Tashkent Oblast's industry will obtain several billion additional cubic meters of natural gas. [Text] [Moscow TRUD in Russian 3 Dec 83 p 1] 11409

MOSKVORECHYE HEATING MAIN--The design for the laying of heating mains for a new housing tract has been approved. Moskvorechye is the name of the section of city blocks to be built up in Krasnogvardeyskiy Rayon. In order to provide the section with heat and hot water, it was decided to lay a large heating main to it. The total length of the pipe will be almost 5 kilometers. [Text] [Moscow MOSKOVSKAYA PRAVDA in Russian 1 Dec 83 p 1] 11409

URENGOY TURBO-EXPANDER COOLING--Novyy Urengoy (Tyumen Oblast)--Special turbo-expanders for cooling natural gas will enable the permafrost at Urengoy's gas fields to be preserved. The first of them has been installed and has passed its tests successfully. As the field is assimilated, the grid of gas pipelines within the field will become increasingly enmeshed. At Urengoy, many of

the lines will pass through extensive sections of so-called "limp" frozen ground. Cave-ins and pits are formed as the soil becomes unstable at fairly low above-freezing temperatures. The turbo-expanders will cool the gas to -2 degrees. This will be completely adequate to let the easily destroyed upper layer of tundra be preserved unspoiled. [Text] [Moscow SEL'SKAYA ZHIZN' in Russian 15 Dec 83 p 1] 11409

VOLGA GAS PIPELINE CROSSING--Zvenigovo--The underwater builders on the Volga's shores have accepted the shock-work baton for the Urengoy-to-Tsentr-1 gas pipeline right-of-way. V. Chernyavskiy's integrated brigade from Specialized Underwater Operations Administration No 4 of Vostokpodvodtruboprovodstroy [Trust for Underwater Pipeline Construction in the Eastern Economic Region], which is to lay the 2-kilometer steel artery across the wide, smooth surface, arrived yesterday. [TASS] [Text] [Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 20 Nov 83 p 1] 11409

MORE GAS FOR UKRAINE--Donetsk--Line operations on the so-called branch gas pipe to one of the largest GRES's in the Ukraine, the Uglegorskaya, were finished recently, The new trunk line, which will enter the country's Unified Gas System with a barely noticeable dash, is not long--about 48 kilometers, but its economic significance is great. Urengoy gas, which had arrived previously at Novopskov and Kramatorsk, will from now on have still another outlet in the Donbass. Conversion of the Uglegorskaya GRES to natural gas will enable the load on the railroads to be reduced and the purity of the air basin to be favorably affected. The main line of the branch went through densely populated Donbass regions and crossed a multitude of communicating facilities and no few natural obstacles. The rapid pace of its laying was provided for by the school that the builders had passed successfully on the Urengoy-Pomary-Uzhgorod route. The work was performed in integrated fashion, on a single work order. The Uglegorsk branch is not the only one that opens the way to Urengoy gas that comes from the system of gas pipelines that run from West Siberia to the Central and Southern Economic Regions. Not much time will pass before the energy of the invisible fuel will breathe new life into power units of the Karamanovskaya GRES in the South Urals, Kharkovskaya TETs-5 and the Pechorskaya GRES and will arrive at enterprises, electric-power stations and household services of the Nizhnekamsk industrial complex. Construction and erecting work inolved in laying the branches are at their peak. Minneftegazstroy [Ministry of Construction of Petroleum and Gas Industry Enterprises] workers have undertaken a commitment to cope with the important task ahead of time. [B. L'vov] [Text] [Moscow IZVESTIYA in Russian 15 Nov 83 p 1] 11409

CSO: 1822/102 END